Air Live®
Powered by OvisLink Corp.

BU-3025 v2

3-MegaPixel Outdoor 25 meter IR IPCAM

User's Manual

www.airlive.com

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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the A user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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1 Overview

This user's guide explains how to operate this camera from a computer. A user should read this manual completely and carefully before you operate the device.

1.1 Introduction

AirLive BU-3025 v2 is high-end 3.0 MegaPixel (MP) network camera which is designed for professional outdoor surveillance and security applications. This 3.0MP IP camera offers many improvements in image quality as comparing to the conventional surveillance cameras. Users are able to view live video streaming over the Internet, and it is not the only one of the benefits for using AirLive IP Camera.

It is also designed to offer high-performance surveillance, and it is equipped with PoE port which allows power and data to be transmitted via a single Ethernet cable. This useful function provides an easier installation, lower cabling costs and allows placement of AirLive PoE cameras in locations without access to electrical source.

With the IP-66 waterproof housing, AirLive BU-3025 v2 suits for environments such as stairs, main entrance, street, and basement.

The device is accessible via the LAN or Internet connection. Connect your device directly to a local area network or xDSL modem, and with Microsoft® Internet Explorer, you get instant, on demand video streams. Within minutes you can set up the device to capture a video sequence to a PC. The live video can be uploaded to a website for the world to see.

1.2 Features

This manual will illustrate the steps of how to setup and operate this IP camera, so you'll also soon be enjoying the benefits of these product features:

- 3MegaPixel CMOS H.264 IP Camera
- Compatible with ONVIF Standard
- Up to 20fps at QXGA Resolution and up to 30fps @1080p Full HD
- Support 802.3af Power over Ethernet Standard
- Mechanical IR-Cut Filter Removable
- Built-in Micro-SD Memory Card Slot for Local Storage
- IP-66 Weatherproof Housing for Most of Environments
- Equips High Illuminate IR LED, Project up to 25 Meters!
- Support H.264, MPEG, MJPEG
- Support Two-Way Audio

1.3 Product Specification

Model		**BU-3025v2**
Camera	Camera Type	Outdoor Bullet Type
	Max Resolution	2048 x 1536
	Image Sensor	1/2.5" CMOS image sensor
	Sensor Resolution	2592 X 1920
	Lens Type	Board Lens
		4mm/F1.8
	Night Vision	Built-In Removable IR Cut Filter
	Max IR Distance	25M
	IR LED	5ph*30pcs
	Minimum Illumination	Color: 0.05 Lux@30IRE B/W: 0 Lux @ IR ON
	Mechanical IR-Cut Filter	Yes

	Auto Iris	none
	Viewing Angle	D70.2°, H58.7°,V45.7°
	Analog Video Out	Yes
Video	Video Compression	H.264 High/Main/Baseline Profile, MPEG4 Simple Profile and MJPEG
	Video Profile	20
	Resolution and Frame Rate	20 fps @ 2048 x 1536
		30 fps @ 1920 x1080
		30 fps @ 1280 x960
		30 fps @ 1280 x 720
		30 fps @ 720 x 480
		30 fps @ 640 x 480
		30 fps @ 320 x 240
	Streaming	Multi-profile streaming
		Streaming over UDP, TCP, or HTTP
		M-JPEG streaming over HTTP (for non IE browser)
		3GPP mobile view
		Configurable frame rate and bandwidth
		Support both CBR and VBR
	ROI	none
	Image Processing	AE, AWB
		Noise reduction
		Color, brightness, sharpness, contrast, Hue
		Mirror/Flip
		Text, time and date OSD
	Digital Zoom	10X
Audio	Audio Encoder	G.711 μ-law
	Audio Streaming	Two-way
	Audio Input/Output	speaker port and microphone port
Network	Ethernet	One RJ45 Port; IEEE 802.3u Compliant 10/100 Mbps Fast Ethernet with Auto-MDIX
	PoE	IEEE802.3af
	Wireless	None
	Supported Protocols	IPv6, TCP/IP, UDP, ICMP, DHCP, NTP, DNS, DDNS, SMTP, FTP, HTTP, HTTPs, Samba, PPPoE, UPnP, Bonjour, RTP, RTSP and RTCP
	Security	Password protection
		IP filter

		HTTPS
	Users	Up to 20 simultaneous users
LED and Button	Power LED	Amber Color
	Link/Act. LED	Green Color/Flash Green
	Reset Button	Reboot and Factory Default (Push and Hold Over 5 Sec)
General	Network Processor	DSP Base
	System ROM	128MByte NAND Flash
	System RAM	128Mbyte DDR SDRAM
	Power Supply	DC12V
	FAN	NO
	Power Consumption	8 Watts Max.
	Connector	RJ-45 10BaseT/100BaseTX
		12V DC power jack
		Microphone/Speaker jack
		DIDO
		Reset button
		BNC
	Environment	Operation: Temp: -40℃ ~ 50℃ Humidity: 20% ~ 85% non-condensing
		Storage: Temp: -15℃ ~ 60℃ Humidity: 0% ~ 90% non-condensing
	SD card slot	Micro-SD/SDHC
	Dimension	HxWxD:208x82x80 mm
System Integration	Software	CamPro Express 64,CamPro Professional
		Search & Installation- IP Wizard II
	Event Triggers	Motion detection
		External input via DI interface
	Motion Detection	Up to 3 zones
	Event handler	FTP or NAS file upload
		E-mail alter
		HTTP, and TCP notification
		DO (digital output) alarm
	UPNP	Yes
	Application Programming	ONVIF
		Open API for software integration

	Interface	SDK
	Video Buffer	Pre- and post- alarm buffering
	Alarm Events	File upload via FTP, NAS, E-mail
		Notification via email, HTTP, and TCP
		External output activation
		Micro-SD
	Continuous recording	Yes
Viewing System	OS	Windows® XP, Vista, 7
	Browser	IE 6.0 or later, Firefox 2.0 or later, Safari
	Cell Phone	With 3GPP player
	Video Player	VLC, Quick Time, Real Player, Core Player

1.4 System Requirement

For normal operation and viewing of the network camera, it's recommended that your system meets these minimum requirements for proper operation:

Item	**Requirements**
CPU	Pentium-4 3.6 GHz or higher
VGA Monitor	Resolution1280 x 1024 or higher
RAM	Minimum 1 GB of RAM
Operating System	Window XP, Vista or Windows 7
Web Browser	Internet Explorer 7 or later; Apple Safari; Firefox; Google Chrome
Cell Phone	3GPP Player

Note: Please keep updating the latest Windows software and service package.
(Ex: Net Framework, Windows Media Player, Enhance ActiveX Security)

2 Package Contents and Installation

2.1 Package Content

A user can find the following items in the package as below:

1. **AirLive BU-3025 v2** is the main element of the product.
2. **Bundle CD** includes Setup Wizard II, CamPro Express64, Quick Start Guide, User Manual, and Video.
3. **Quick Start Guide** provides important information and instructions for installing this device.
4. **Accessory Package** including Wall Mount Kit & Wall Mount Stand
5. **Power Adapter**: 12V DC electric power adapter

2.2 Connections

Power Source Requirement

This camera can work with 802.3af POE switch without the power adapter. However, if you don't have POE switch, you can use power adapter in the box to provide power to camera.

Switch/Connector

There are various connectors of AirLive BU-3025 v2 as shown in the figures below. Please refer to the diagrams and tables accompanied with for using of each switch / connector.

1. RJ45 LAN socket: Connect to PC or Hub/Switch.
   For connections to 10Base-T Ethernet or 100Base-TX Fast Ethernet cabling. This Ethernet port built N-Way protocol can detect or negotiate the transmission speed of the network automatically. Please use Category 5 cable to connect the Network Camera to a 100Mbps Fast Ethernet network switch or hub.

   In the LAN socket, there are two LEDs embedded:
   LAN LED (green color)
   Green Link Light indicates good network connection.
   Power (orange color)
   This LED is used to indicate whether DC power is on or not.

2. RS485:

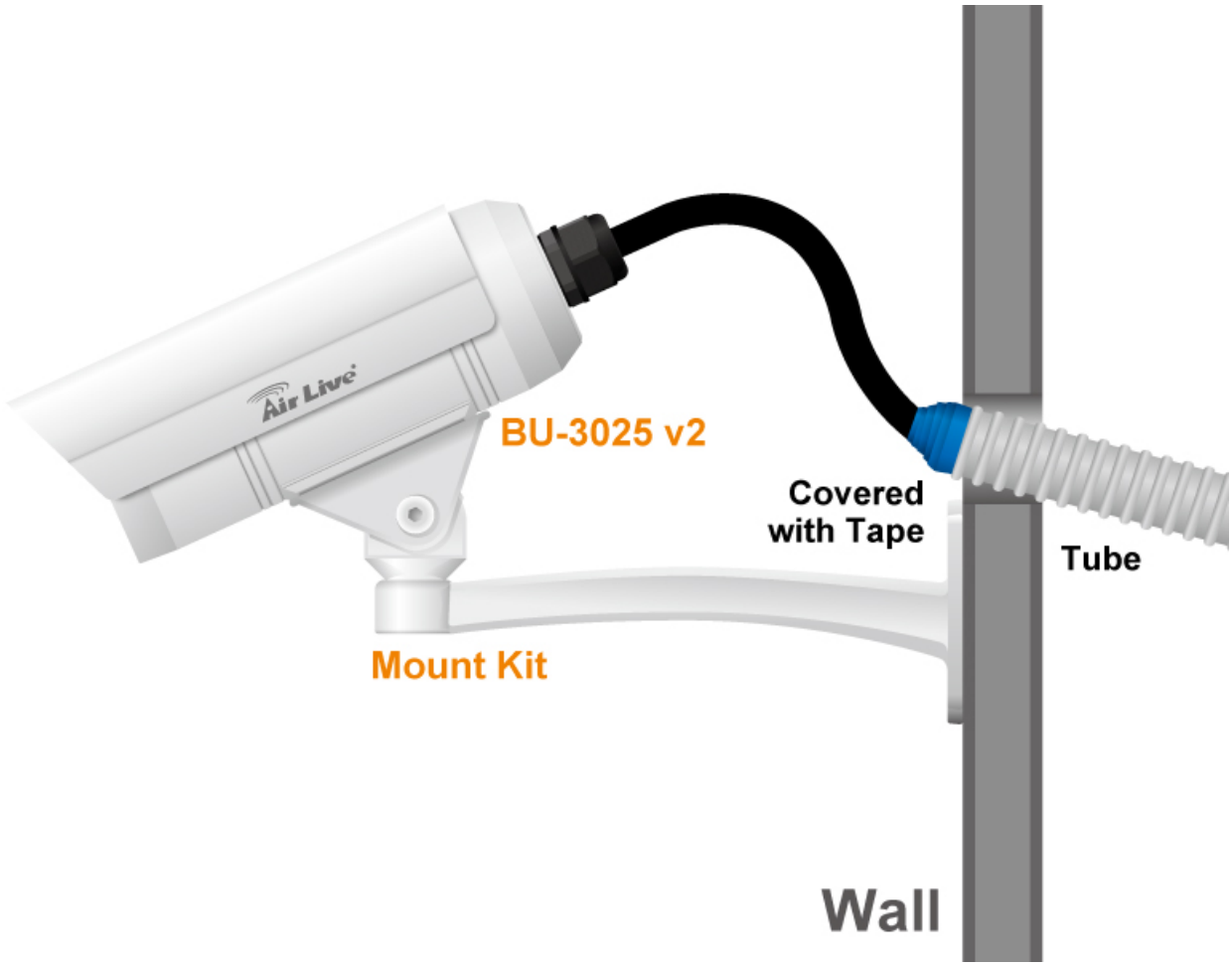
Item	Description
RS-485	- : RS485-
	+ : RS485+
	1 : DO (Digital Output)

	2 : GND (Ground)
	3 : DI (Digital Input)

3. DC-in: The input power is 12VDC/2A.
4. Audio Output
5. Audio Input
6. Reset Button: This button is used to restore all the factory default settings.
7. TV out: BNC Connector

2.3 Mounting the Camera

Fix the camera with bundle wall mount kit as below.



1. Plug an Ethernet cable into the Camera

Connect an Ethernet cable to the LAN socket and attach it into the network.

2. Connect the external power supply to Camera

Connect the attached power adapter to the DC power jack of the camera.

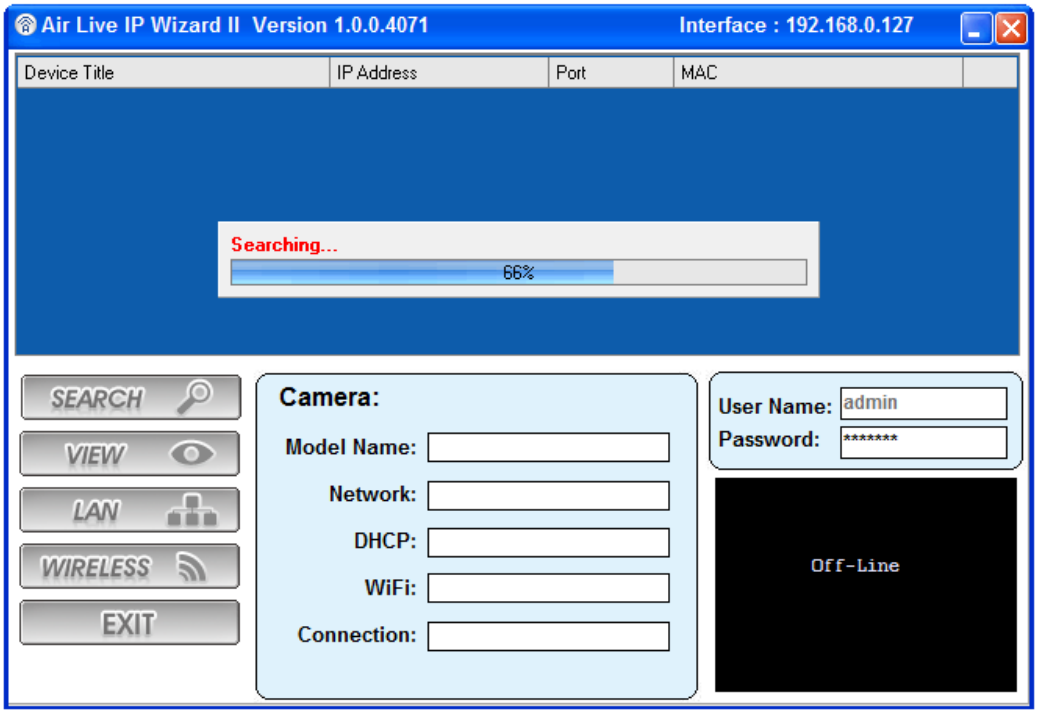
Note: Use the power adapter, 12VDC, included in the package and connect it to wall outlet for AC power.

Once you have installed the camera well and powered it on, the power LED (orange) will turn on later. The power LED turns on, which means the system is booting up successfully. Furthermore, if you have a proper network connection, and access to the camera, the LAN LED (green) will flash.

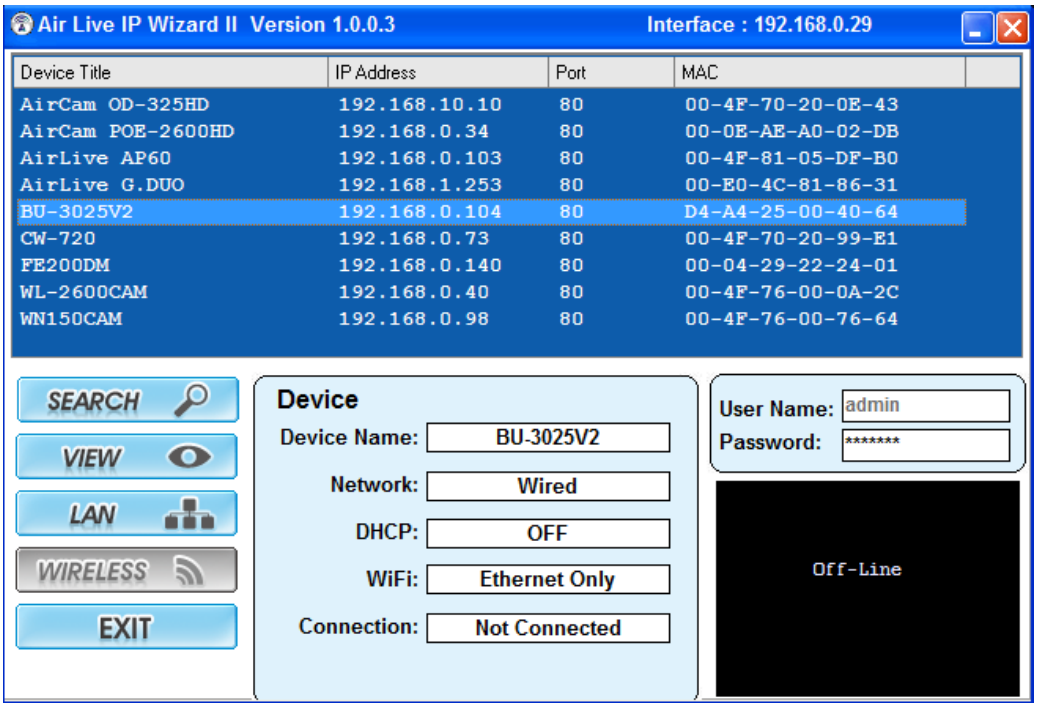
2.4 Connect to IP Camera

1. Insert the bundle CD into your PC/Laptop.
2. Auto Run Screen then shows up; click “Install Software → “Camera IP Finder Utility” to install the configuration tool software.

3. After completing installation, run the configuration tool software.



4. The Software scans the network and finds the IP Camera and then lists them in the dialog box.



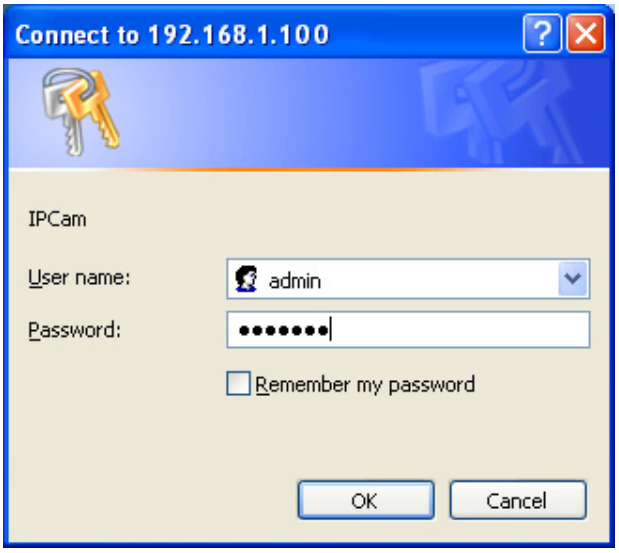
5. If the Camera's IP address is in the same IP segment as your LAN, select the founded IP Camera and double click on the item. Then, the default browser will show up and connect to the IP camera's Web automatically.

3 Using IP Camera via Web Browser

3.1 Windows Web Browser

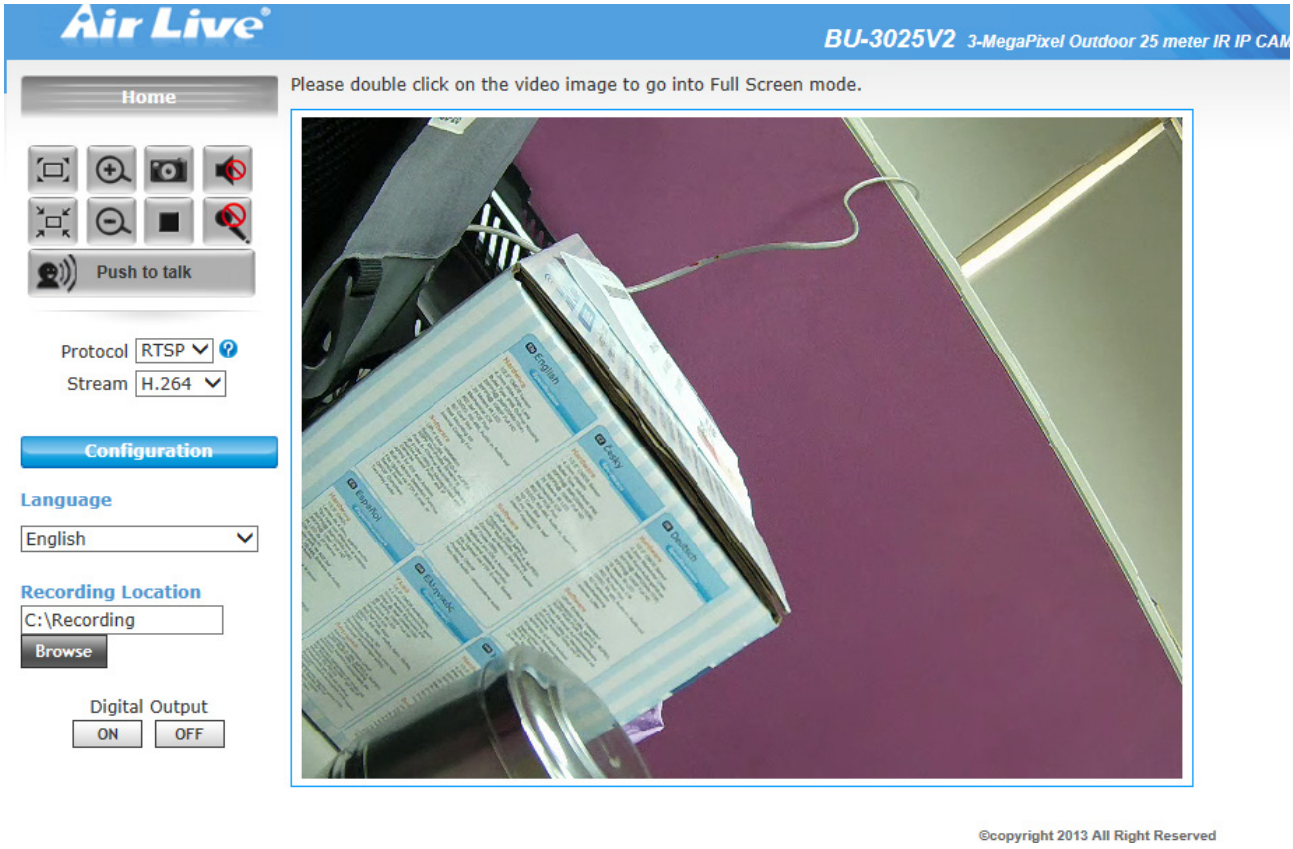
1. Open your web browser, and enter the IP address or host name of the IP camera in the Location / Address field of your browser.
   Note: If you only want to view the video without accessing Setting screen, enter "http://<IP>/index2.htm" as your web URL.

2. Use the default account "**admin**" and default password "**airlive**".



Note: The default user name "**admin**" and the password "**airlive**" are set at the factory for the administrator.

3. The monitor image will be displayed in your browser. In the left side of main window, you can configure the settings you want. For more details, you can check the following chapters.



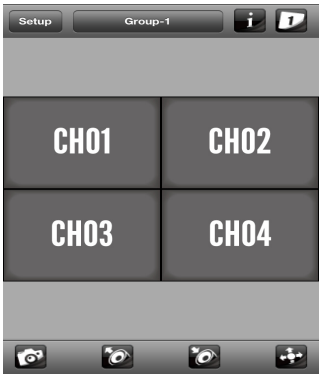
4 Operating IP Camera via Mobile Phone

4.1 Using IP Camera via iPhone

You can access to your IP camera via your iPhone. Please follow the setting process below. Then you can see the live view via iPhone.

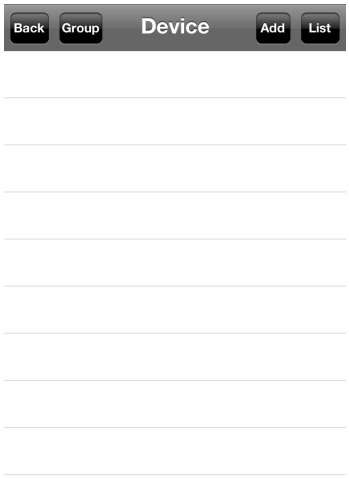
1. Download AirLive CamPro Mobile from APP store

2. Execute AirLive CamPro Mobile

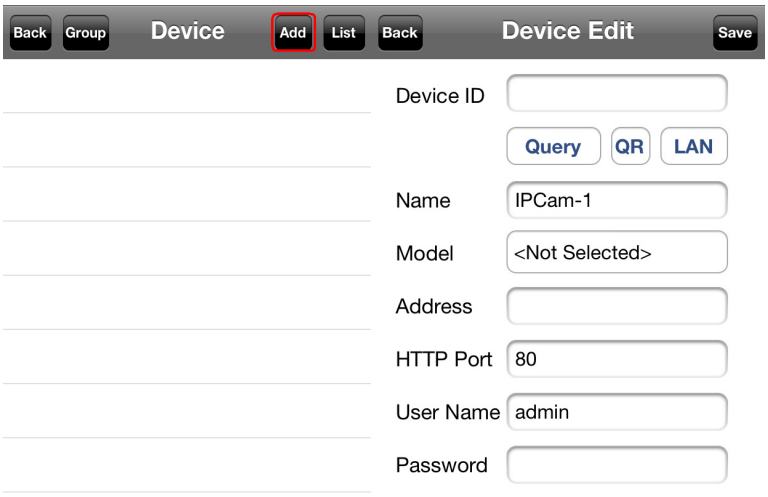


3. Click Setup button.

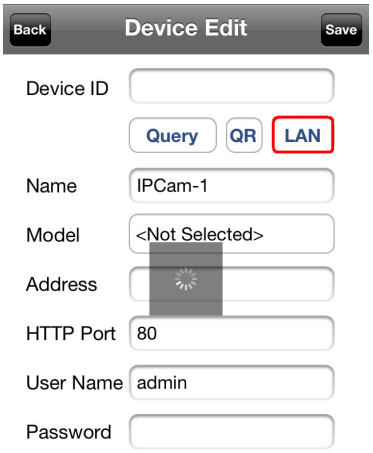
4. Setup page appears



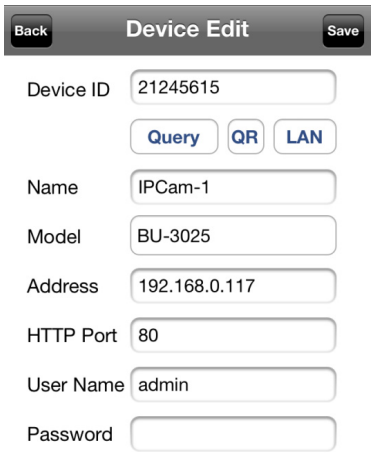
5. Click Add button.



6. Click LAN button and select the camera.

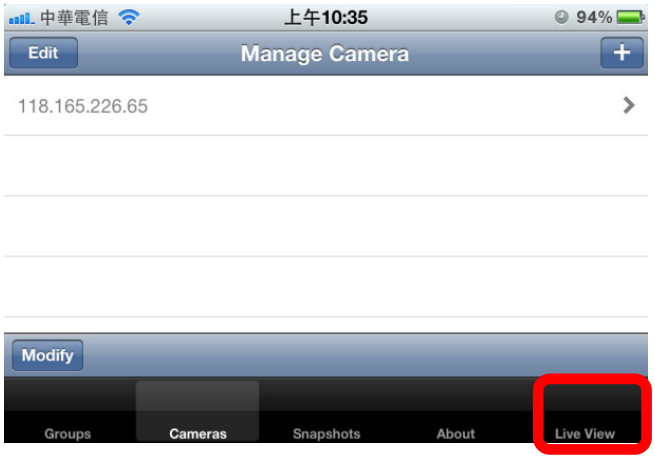


7. Model, Address, HTTP Port info appear on the page.

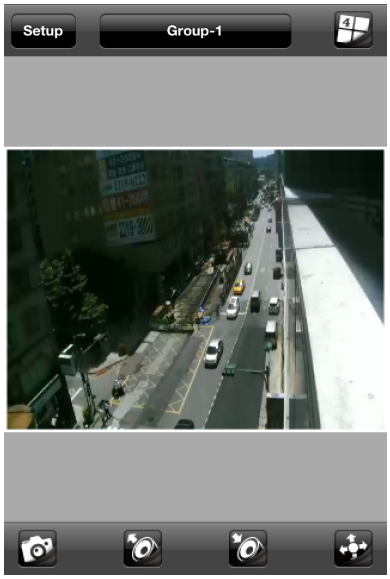


8. Key-in Username and Password then click OK button.

9. Click Live View button.



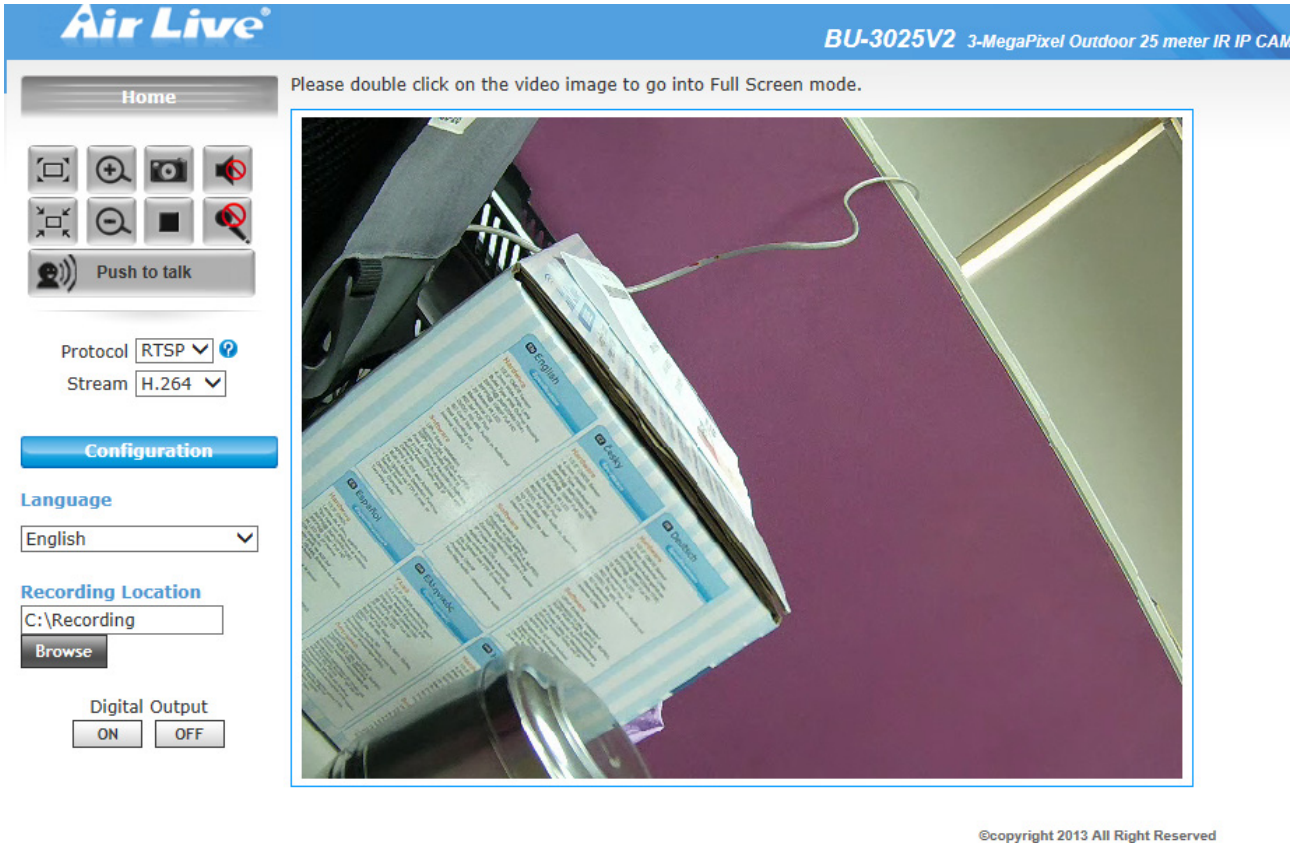
10. The video appears on the main screen.



Note: The image is continuous snapshots, not video. Thus, live image can't be recorded here.

5 Operating the Network Camera

Start-up screen will be as follow no matter an ordinary users or an administrator.
In the left side, you can control Live View in your main Browser. The functions include below.



5.1 Live View

1. **Language**

   Multiple languages are supported, including the following for the viewer window interface.

2. **Stream**

   The device supports multi-profile function for H.264, MEPG4 and JPEG simultaneously. A user can choose the proper and/or preferred profile which is listed here.

3. **Protocol**

   A user can select proper streaming protocol according to network environment.

4. **Digital Output**

   Switch digital output interface on or off.

5. **2-Way Audio**

   The device supports 2-way audio function. A user can choose to enable or disable this function by toggling the icon below.

   : Disable speaker function.

   : Enable speaker function.

   : Disable audio uploading function.

   : Enable audio uploading function.

6. **Volume**

   Click Speaker button to activate this function. Scroll the control bars to adjust the audio attribute.

7. **Original size** **/ Preview Size**

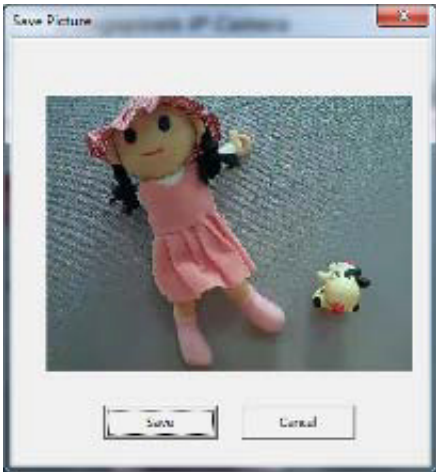
   Switches live image view between original size (full size: 3MegaPixels) and preview size (smaller size).

8. **Digital Zoom**

   From 1X to 10X, so you can see objects in video in detail.
   Please note: that digital zoom uses computer algorithm to enlarge the video and some details may lost. If you need to focus on detail of specific objects in video view, please use optical zoom ring on lens set of IP camera.

9. **Snapshot**

   Take a snapshot or camera video and save image file on your computer. When you click this button, a new window will appear.

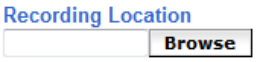


Click ‘Save’ button when you see the image you wish to save, and you’ll be prompted to indicate the folder on your computer to save image file.
If you changed your mind and don’t want to save image file, click ‘Cancel’.

10. Record

Click Record to activate this function. Press Record button to start recording. The video file is saved as ASF format into your local PC. While you want to stop it, press Stop to stop recording.

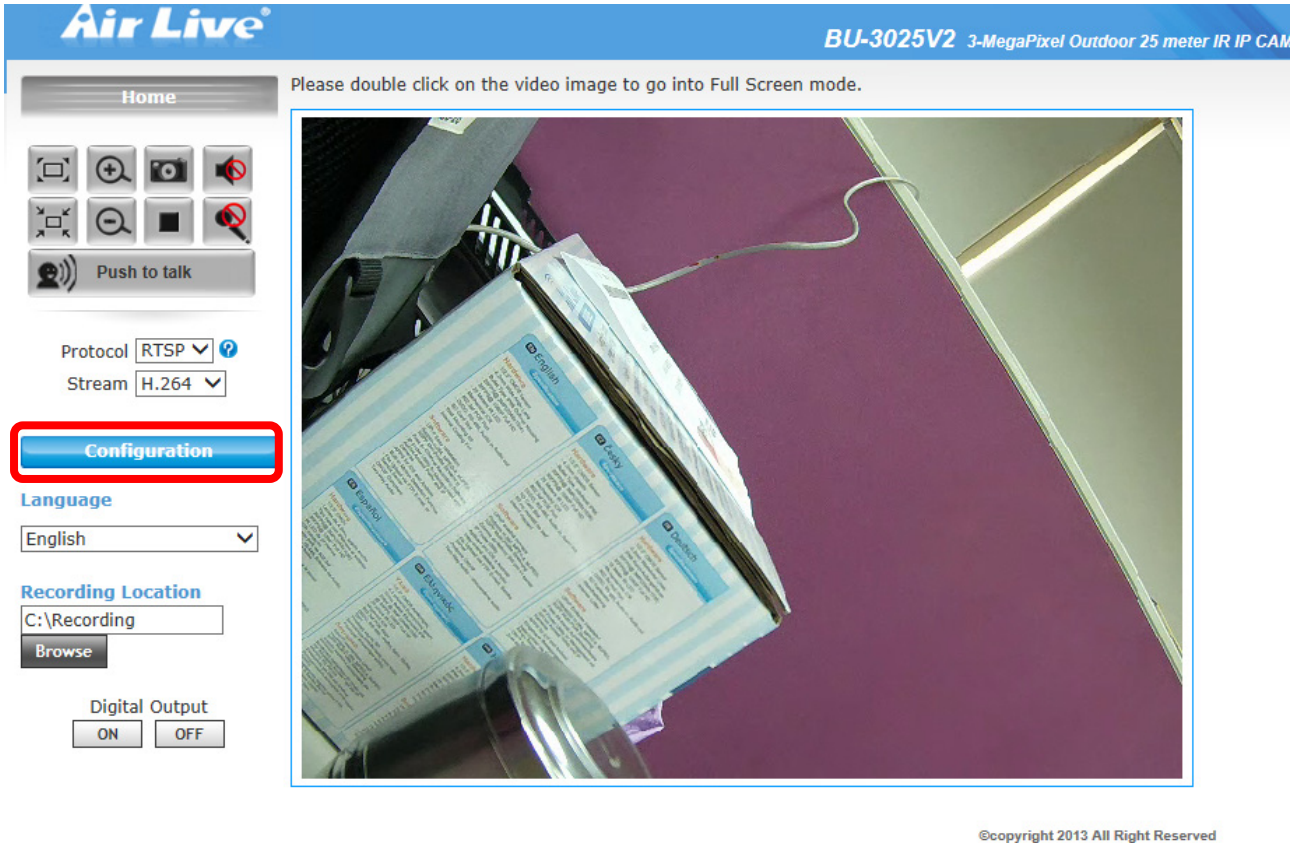
11. Recording Location



Select Recording Location to select the save path and file name prefix, select OK to continue.

5.2 Configuration

Click “Configuration” for the camera settings. In the left side of main menu, you can see many settings. For more detail information, you can refer to Chapter 6.



6 Configuration

Click the **Configuration** as below.

Air Live
BU-3025V2 3-MegaPixel Outdoor 25 meter IR IP CA
Home
Please double click on the video image to go into Full Screen mode.
Push to talk
Protocol RTSP
Stream H.264
Configuration

Pop-up 14 sub-menus as below

Item	Action
System	Configure basic IP camera settings like hostname and time.
Security	Configure IP camera's login account.
Network	Configure Network settings such as DHCP, DDNS, RTSP, PPPoE and UPnP
IP Filter	You can enter different user's IP address which are allowing enter or denying by the device
Video	Configure bit rate and frame rate of video profiles
Audio	Configure audio parameters
Motion	Setup Motion detection
PTZ Control	Configure Pan tilt control via RS-485 connection
Event	Setup Event server, Motion Detection, I/O Ports and Event configuration.
Recording	Setup External storage Recording
SDHC	Status and configuration of Micro-SD card
Log	Check the usage log of IP camera
Device info	Check the information and network settings of this IP camera.
Maintenance	Setup maintenance function of this IP camera

6.1 System

In this menu, you can configure basic IP camera settings like hostname and time.

1. System

- Host Name

You can enter the name of this unit here. It's very useful to identify the specific device from multiple units. The information will be shown on IPWizard II once the device is found.

- Indicator LED

Turn on or off Indicator LED.

2. Date and Time

- Time Zone

Set the time difference from Greenwich Mean Time in the area where the device is installed.

- Daylight Saving

Disable or enable the daylight saving adjustment.

- Keep the current date and time:

Select this option and date / time setting will not be changed when you click 'Apply' in the page. You can check 'Camera Date and Time' item in this page to know IP camera's current date and time setting.

- Synchronize with computer time

Click this option to enable time synchronization with PC time.

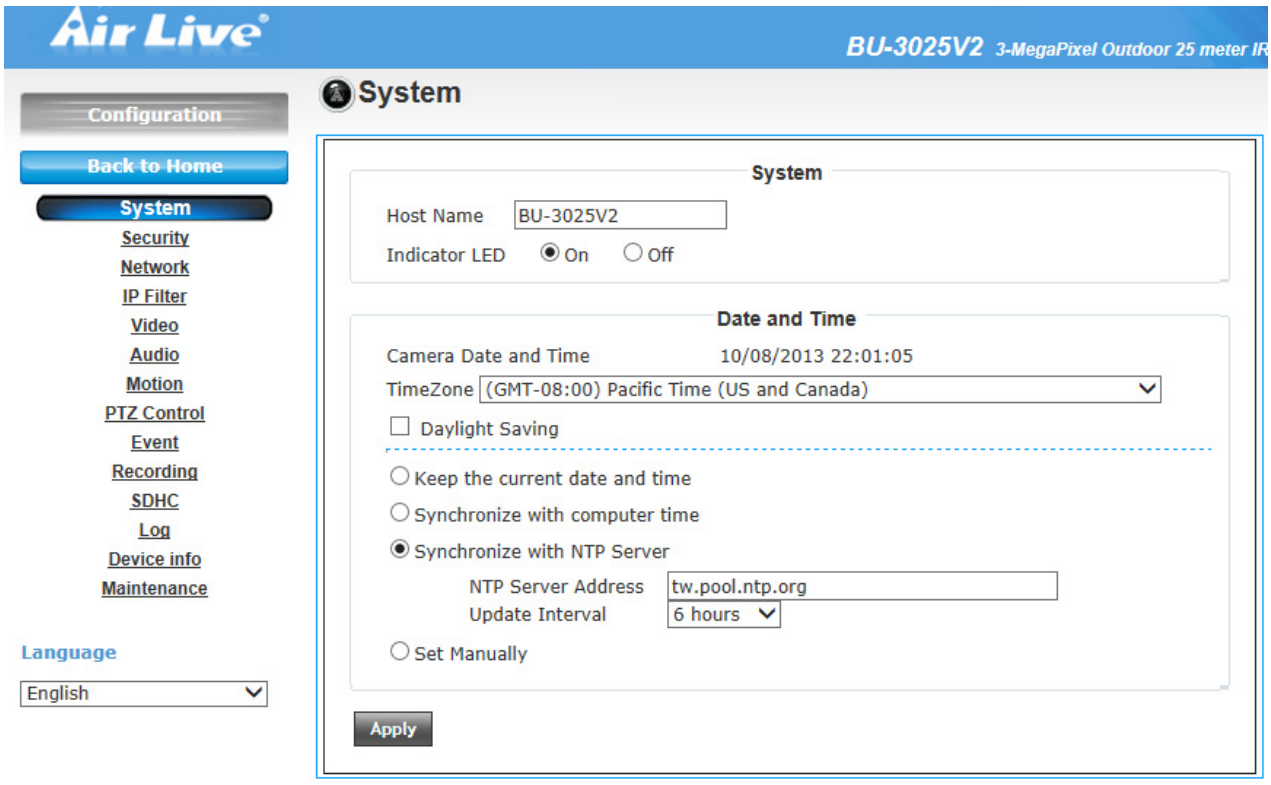
- Synchronize with NTP Server

Click this option if you want to synchronize the device's date and time with those of time server called NTP server (Network Time Protocol).

- Set Manually

Click this option to set time and date manually..

When you finish with above settings, click 'Apply' button to save changes



6.2 Security

In this menu, you can configure IP camera's login account. There are three kinds of account:

- Administrator

An administrator can view IP camera's video and make changes of camera setting.

For the first time use (default value), input the

User Name: admin

Password: airlive

- User

A user can view IP camera's video and see settings, but can't make any change.

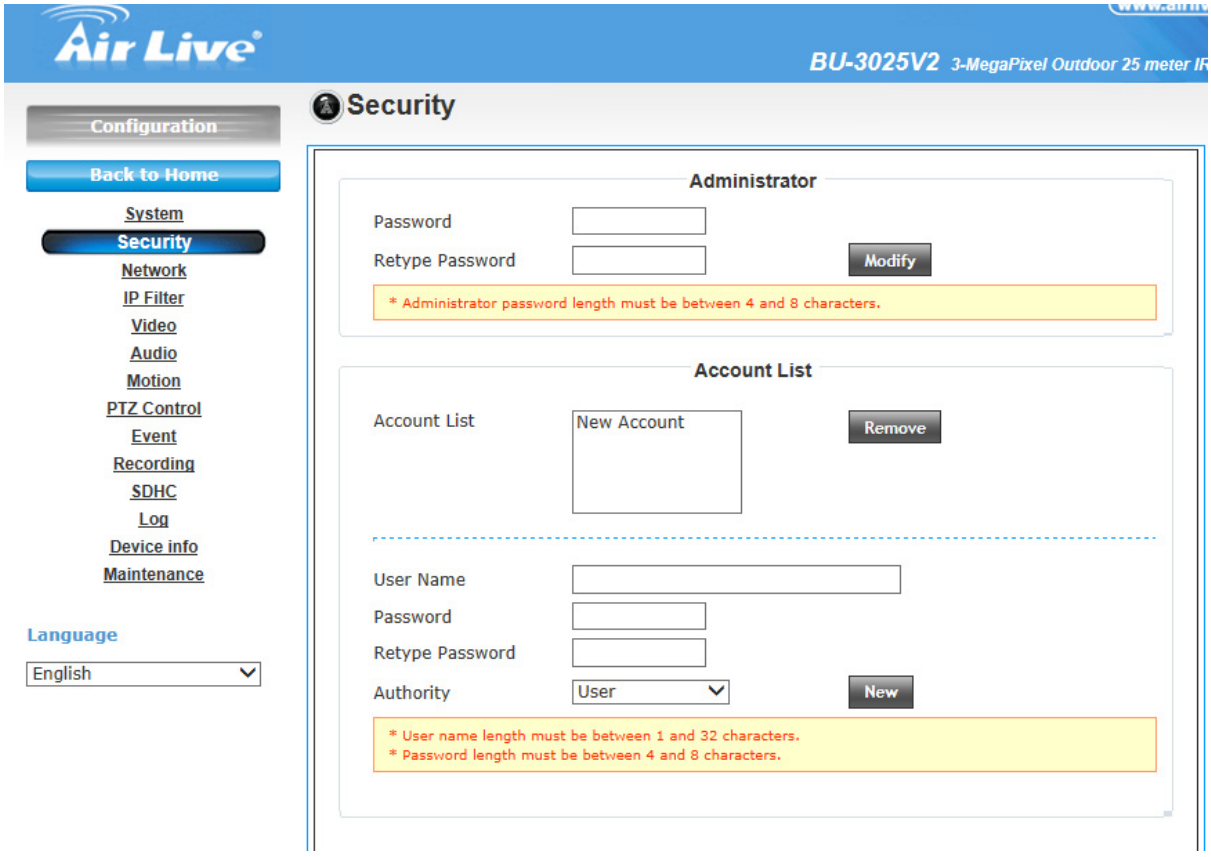
- Guest

A guest can view IP camera's video only.

There can be multiple users, but only one administrator is allowed, and you can't change administrator's user name (it will always be 'administrator').

Here are the descriptions of every setup item:

Item	Description
Password / Retype Password **(Administrator)**	Input administrator's new password in both 'Password' and 'Retype Password' field, and click 'Modify' button to change administrator's password. *Please note: Don't forget administrator's password! Or you'll need to reset IP camera's all settings to get administrator's password recovered.*
Account List	Here lists all users existed in IP camera. If you want to remove one user, click it in the list, and then click 'Remove' button. *If no user is existed, 'New Account' message will be shown here.*
User Name	Input new user's username here. User name must be greater than 1 character and less than 32 characters.
Password / Retype Password	Input this user's password in both 'Password' and 'Retype Password' field.
Authority	To define this user's access privilege, select 'User' or 'Guest' in dropdown menu. When you finish inputting new user's information, click 'New' button to create a new user.



6.3 Network

In this menu, you can configure IP camera's network setting.

1. General

Here are the descriptions of every setup item:

- LAN:

  Select this option to assign an IP address to LAN port (or obtain an address from DHCP server automatically).

  Available options are:
  - DHCP IPv4: Obtain an IPv4 IP address from DHCP server on LAN automatically.
  - DHCP IPv4 / IPv6: Obtain both IPv4 and IPv6 address from DHCP server on LAN automatically.
  - Static IPv4 / IPv6: Assign an IPv4 / IPv6 address to IP camera manually. If you don't have a DHCP server on your local area network, you must use this option to specify an IP address.
  - IP Address (IPv4): Input IPv4 IP address*
  - IP Address (IPv6): Input IPv6 IP address*
  - Prefix Length: Input IPv6 IP address' prefix length (0-128)
  - Subnet Mask: Input subnet mask
  - Gateway: Input gateway address
  - Primary DNS: Input DNS server's IP address
  - Secondary DNS: Input backup DNS server's IP address, you can leave this field blank.

  * You can leave this field blank, if you only wish to use IPv4 or IPv6 IP address.

  Enable UPnP Discovery: Check this box to enable other devices on network to discover the presence of this IP camera by UPnP. It's recommended to enable this function.
  Enable UPnP Port Mapping: When UPnP is enabled, check this box to enable UPnP's port mapping.

IP Address (IPv4/IPv6)	Enter the IP address of the camera. The default setting is 192.168.1.100.
Subnet Mask	Enter the Subnet Mask of the camera. The default setting is 255.255.255.0.

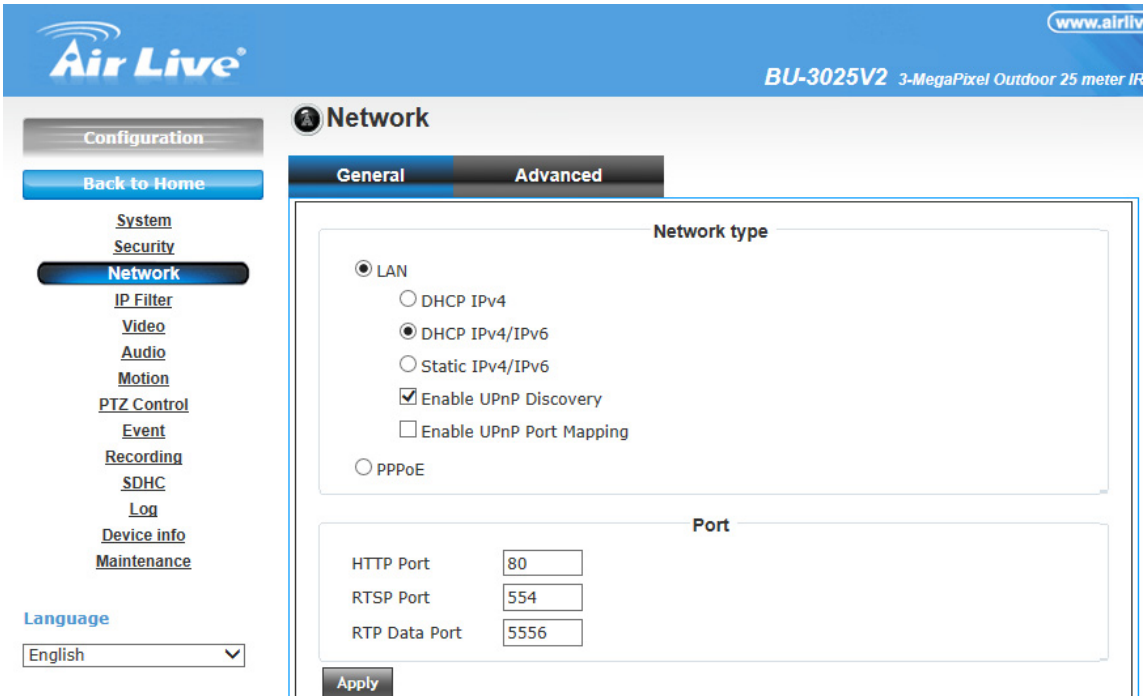
Default Gateway	Enter the Default Gateway of the camera. The default setting is 192.168.1.254
Primary/ Secondary DNS	DNS (Domain Name System) translates domain names into IP addresses. Enter the Primary DNS and Secondary DNS that are provided by ISP.

- PPPoE:
  Select this option to use PPPoE to connect to network. You have to input PPPoE username and password assigned by network operator to get connected.

- HTTP Port:
  Input IP camera's web connection port number here. When this port number is changed, you need to change web browser's port number you used to connect to IP camera.
  For example, if the IP camera's IP address is 192.168.2.3 and you changed HTTP port number to 82, please input 'http: //192.168.2.3:82' in web browser's address bar to access IP camera's web configuration interface.
- RTSP Port:
  Input RTSP port number. When this port number changes, you must change corresponding settings in external network devices (NVR or CMS software) so they can receive this IP camera's video.

- RTP Data Port:
  Input RTP data port number here.

When you finish with above settings, click 'Apply' button to save changes.



2. Advanced

You can setup advanced network settings in this page. This page is intended for advanced settings only, and this IP camera will work fine even you don't make any changes to this page.

- Multicast:
  Enable video multicast:
  Multicast Group Address: Input multicast group address here, must be an address between 232.0.0.0 to 232.255.255.255.
  Multicast video port: Input port number for video multicast here.
  Multicast RCTP video port: Input port number for RCTP video here.
  Multicast audio port: Input port number for audio here.
  Multicast RCTP audio port: Input port number for RCTP audio here.
  Multicast TTL: Input TTL value for multicast here.

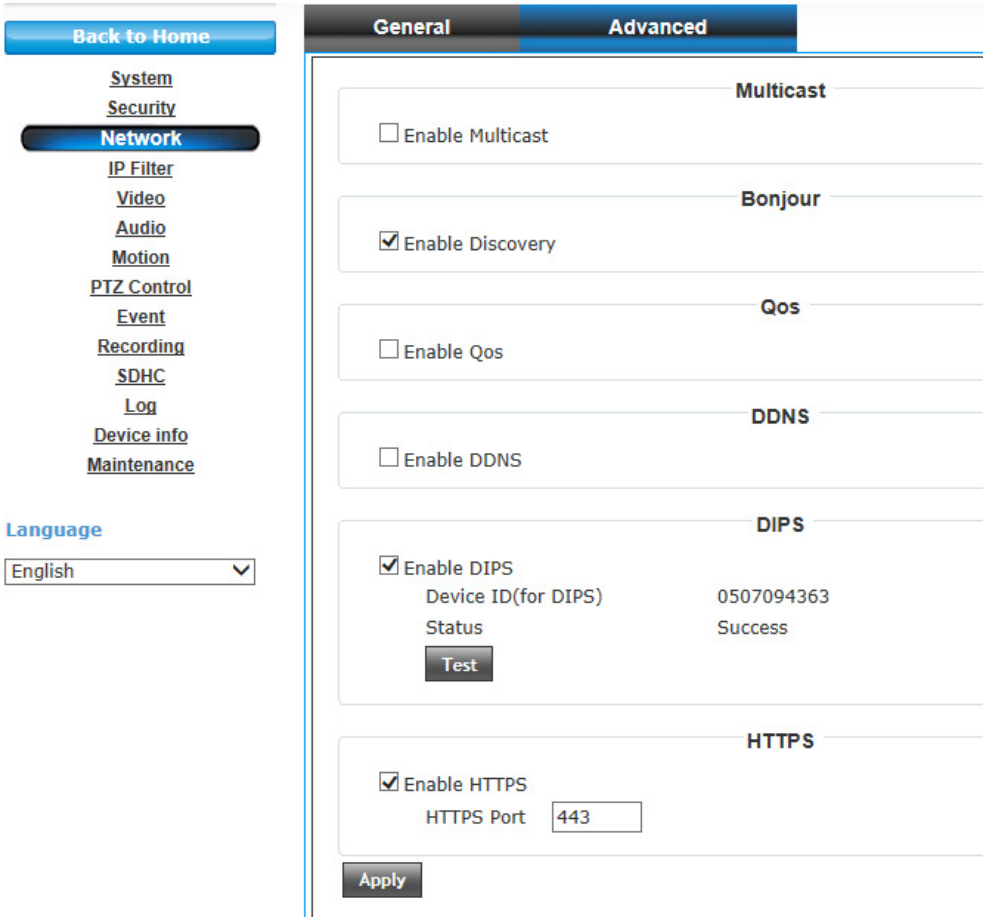
- Bonjour:
  If you're using Mac OS and you have Bonjour installed, you can use it to discover this IP camera.

- QoS:
  Enable QoS to improve the data transfer priority of this IP camera (Your local area network must support QoS).
  You can select Video / Audio's QoS DSCP value (0 to 63), or both video and audio.

- DDNS:
  Enable DDNS support if your ISP assigns dynamic IP address to you. You must register a dynamic IP service first. Currently this IP camera supports Dyndns and TZO dynamic IP service.
  Provider: Select dynamic IP service provider.
  Host Name: Input the host name you obtained from dynamic IP service provider.
  User name: Input user name used to login dynamic IP service provider.
  Password: Input the password used to login dynamic IP service provider.

- DIPS ID:
  It's a unique number of each device for identification and this ID is used for DIPS. This function now is reserved for future use.

- HTTPS:
  Check 'Enable HTTPS' box to enable HTTPS channel to encrypt transferred data. You can also define HTTPS port number in 'HTTPS Port' field if you don't want to use default value '443'.

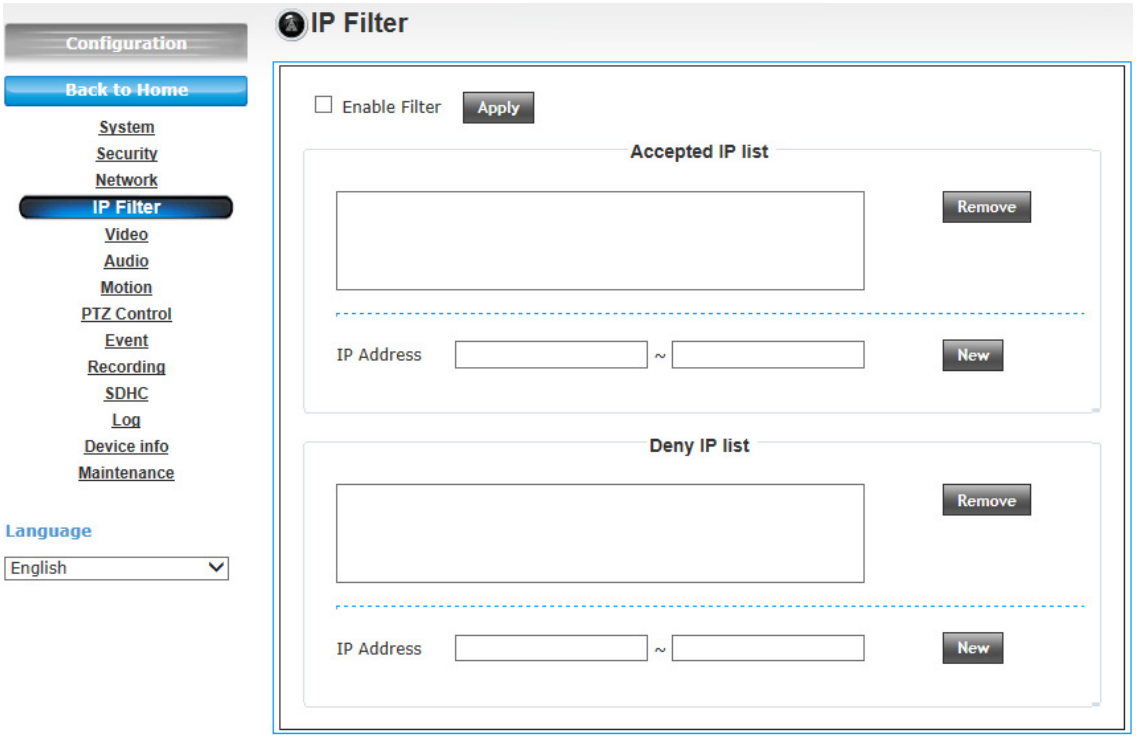


6.4 IP Filter

When this IP camera is directly connected to Internet and not protected by firewall, this function acts like a mini built in firewall to protect the safety of this IP camera and avoid attacks from hackers.

Item	Description
Enable Filter	Check this box to enable IP address filter, uncheck this Box to disable this function.
Accepted IP list	Here lists all IP address that can build connections to this IP camera. If you want to remove a set of IP address from the list, click on the IP address and click 'Remove' button.
IP Address (Accepted IP list)	Input the starting and ending IP address of IP address you wish to accept connections here. IP camera will only accept connections established from these IP address. If you want to specify one IP address only, input the same IP address in both field. Click 'New' button to add IP address into accepted IP list.
Deny IP list	Here lists all IP address that cannot build connections to this IP camera. If you want to remove a set of IP address from the list, click on the IP address and click 'Remove' button.
IP Address (Accepted IP list)	Input the starting and ending IP address of IP address you wish to deny connections here. IP camera will deny connections established from these IP address. If you want to specify one IP address only, input the same IP address in both field. Click 'New' button to add IP address into deny IP list.

When you finish with above settings, click 'Apply' button to save changes.



6.5 Video

There are 3 sub-menus in this menu: Image Setting, Video Setting, and Overlay, which can be accessed by tabs on the top:

1. Image Setting

You can adjust the image parameters in this page.

- Brightness /Contrast /Saturation /Sharpness:
  Control the image parameters. Click ‘ -‘ to decrease value, or click ‘ + ‘ to increase value. You can also input the value in the field directly.
- Default:
  Check “Vertical” and “Horizontal” box to flip the image vertically or horizontally, this will help to correct the orientation of image when IP camera is hanged bottom up by camera holder.
  You can click both “Vertical” and “Horizontal” box at the same time.

- Power Line Frequency:
  Select the frequency of power line of the place you’re using this IP camera. This will help to reduce the flicker of certain lights in the image.

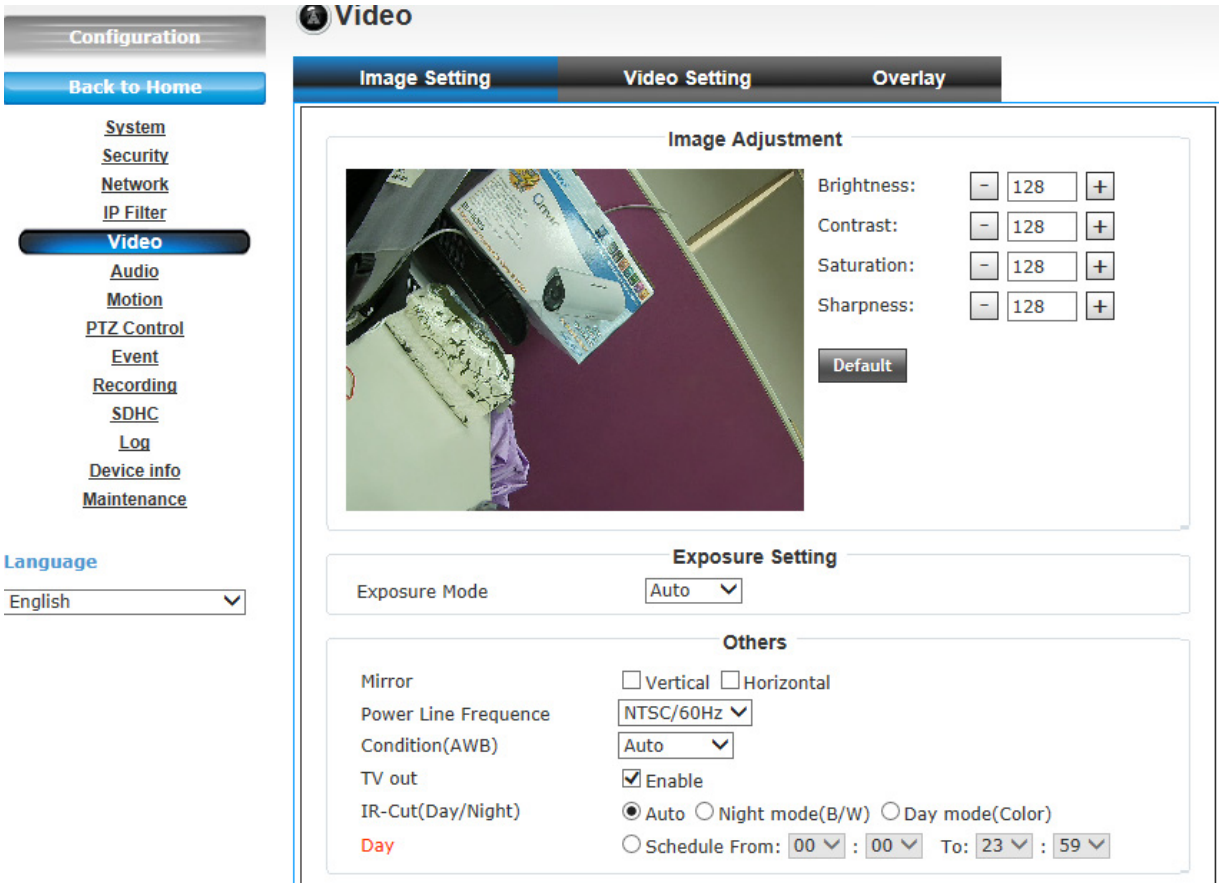
- Condition:
  Select the condition that you’ll be using this IP camera from dropdown menu.

Auto: IP camera will adjust its parameters automatically.
Night: You'll be using this IP camera in dark places where lights are insufficient.

- TV Out:
  Click "Enable" box to enable its "VIDEO OUT" function for connections and video sending to TV monitors or DVRs.

- IR cut:
  An IR cut filter is built in this IP camera to reduce the effect of IR lights (which will change the color of image and makes it looks different than what you see through your eyes), and most of IR lights are coming from sunlight.
  You can select the behavior or IR cut filter:
  Auto: IR filter will act automatically. If you don't know wheatear you should use IR filter or not, select this option.
  Always ON: IR filter is always on.
  Always OFF: IR filter is always off.

- Day:
  Select the condition that you'll be using this IP camera from dropdown menu.
  Auto: IP camera will adjust its parameters automatically.
  Night: You'll be using this IP camera in dark places where lights are insufficient.



2. Video Setting

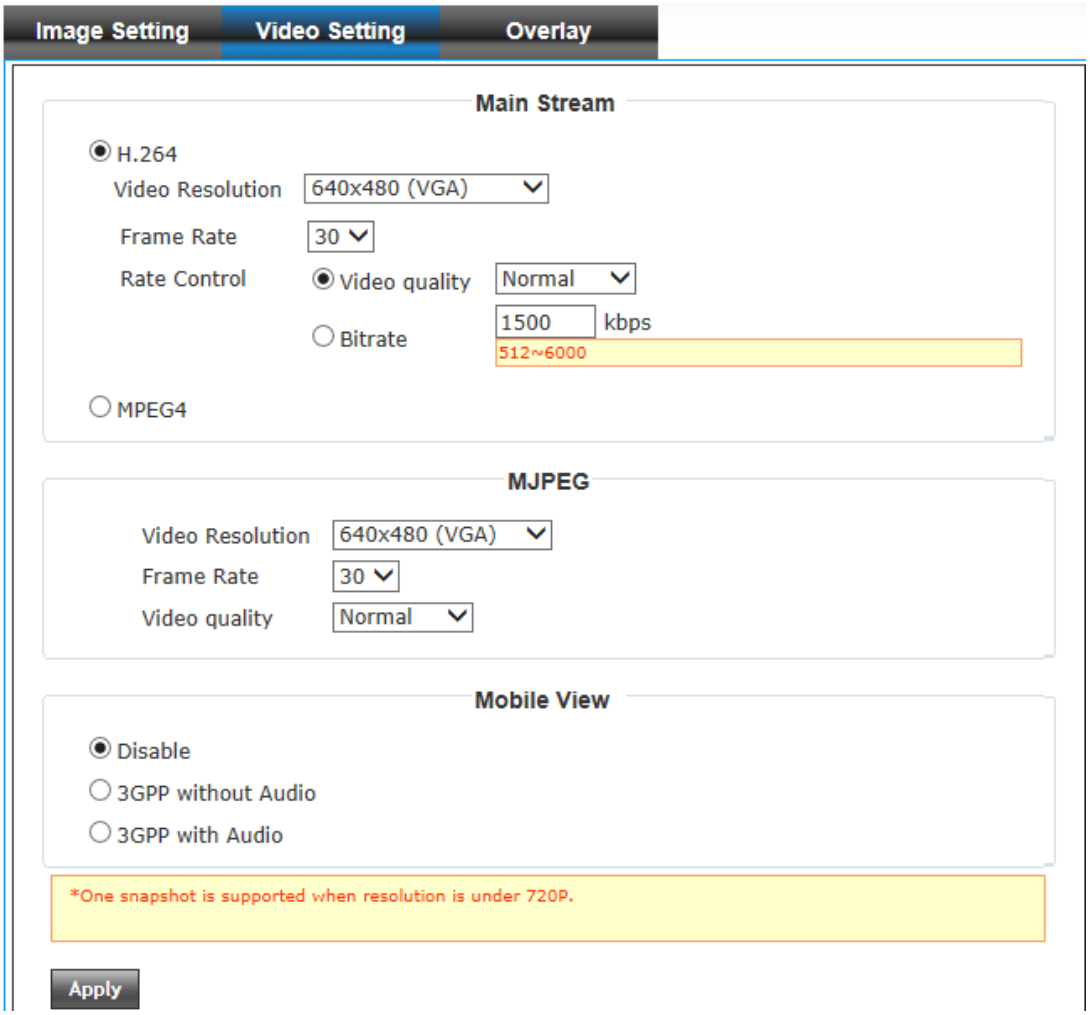
You can adjust the video transfer parameters in this page.

Here are the descriptions of every setup item:

Item	Description
H.264 /MPEG4	Select the compression of main stream: H.264 / MPEG4.
Video Resolution	Select video resolution. - H.264: 2048x1536 (QXGA) / 1920x1080 (1080p) 1280x960 (960p) / 1280x720 (720p) 720x480 (D1) / 640x480 (VGA) 320x240 (QVGA) - MPEG4: 1920x1080 (1080p) / 1280x960 (960p) 1280x720 (720p) / 720x480 (D1) 640x480 (VGA) / 320x240 (QVGA) MJPEG: 1280x720 (720p) / 720x480 (D1) 640x480 (VGA) / 320x240 (QVGA) Please note that some video resolution is not available when video encoder is 'MPEG4'. When network speed is insufficient, select a lower video resolution will help.
Frame Rate	Select video frame rate. Please note that some frame rate is not available when video encoder is 'H.264'. When network speed is insufficient, select a lower frame rate will help.
Rate Control	Select video bit rate. You can control bit rate by both 'Video quality' and 'Bitrate': - Video quality: There are 5 levels of video quality, select 'very high' to improve video quality but consumes more network bandwidth, and select 'very low' will decrease video quality and consumes less network bandwidth. - Bitrate: Input video's bit rate directly. It must an integer between 512 and 6000. Higher bit rate provides better video quality, but consumes more network bandwidth.
Mobile View	Checking the radio box to enable remote access when you need to remote access via mobile phone.

When you finish with above settings, click 'Apply' button to save changes.

Note: MJPEG options are only available for portable devices like cell phone. The resolution is under 1280 x 720 (720P). The UI page will pop up when the resolution of H.264/MPEG4 is 720P or below like hereunder.



3. Overlay

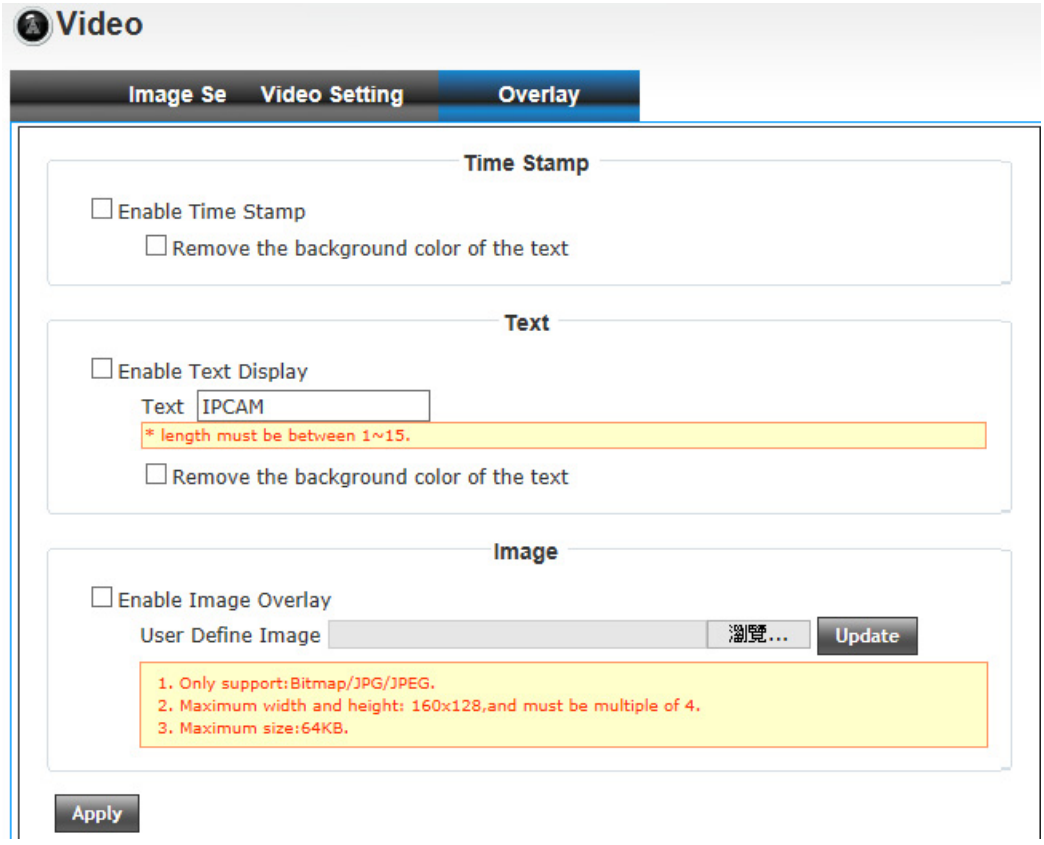
You can adjust the video overlay parameters in this page.

Here are the descriptions of every setup item:

Item	Description
Enable Time Stamp	Check this box to enable overlaying time stamp on video.
Remove the background color of the text (for Time Stamp)	Check this box to remove time stamp's background color. You may find this will help the readability of time stamp text in some cases.
Enable Text Display	Check this box to display certain text on video, this will help when you need to identify certain IP camera when you have a lot of IP

	cameras. Please input the text in 'Text' field. You can input up to 15 characters.
Remove the background color of the text (Text)	Check this box to remove custom text's background color. You may find this will help the readability of text in some cases.
Enable Image Overlay	Check this box to overlay a specific image on video, so you can show certain text / picture on the video and help people to identify this IP camera. Click 'Browse' button to pick a picture on your computer, then click 'Update' button to use the picture. Please note that there are certain restrictions: - Select .bmp / .jpg / .jpeg image files only. - Image's resolution should be less than 160 x 128, and can be divided by 4. - Do not upload image files that size is greater than 64KB.

When you finish with above settings, click 'Apply' button to save changes.

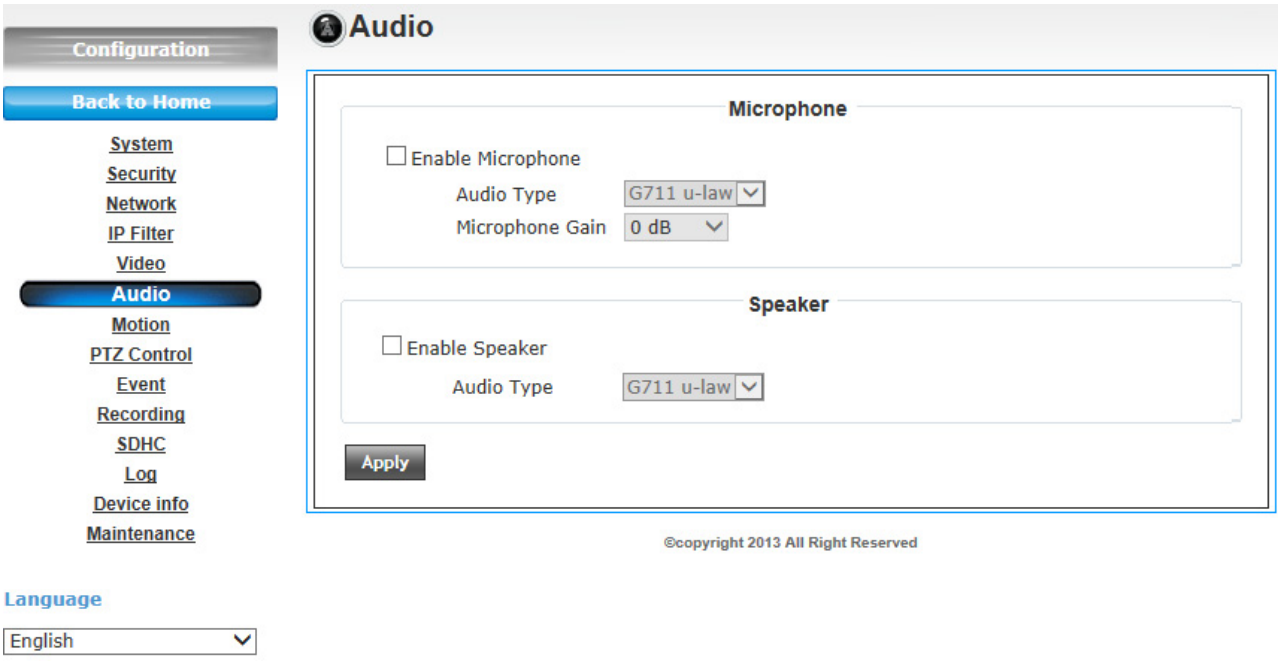


6.6 Audio

Here are the descriptions of every setup item:

Item	Description
Enable Microphone	Check this box to enable microphone. If you don't want to hear voice from IP camera, you can uncheck this box to disable it.
Audio Type (Microphone)	The format is fixed as G.711
Microphone Gain	If the voice received by microphone is too loud or silent, you can use this function to improve voice volume, so you can hear voice from IP camera more clearly. - Select -2 or -1 dB to correct the voice that is too loud; - Select 0 dB and IP camera will do nothing on the voice; - Select +2 dB to +26 dB to amplify the voice.
Enable Speaker (Speaker)	Check this box to enable speaker. If you don't want people at IP camera to hear you, you can uncheck this box to disable it.
Audio Type (Speaker)	The format is fixed as G.711

When you finish with above settings, click 'Apply' button to save changes.



6.7 Motion

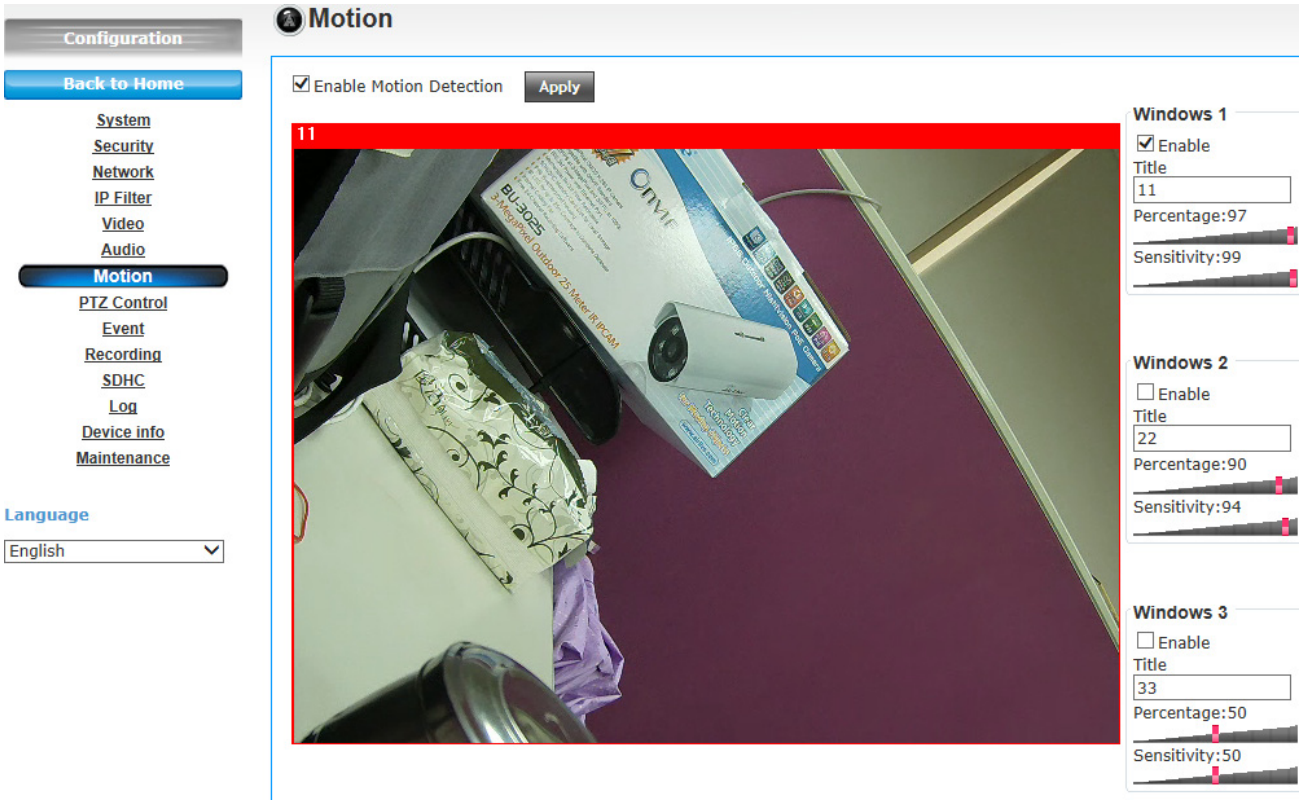
This IP camera is capable to detect object's motion, so IP camera will only record when there's motion and save disk storage space.

Motion detection is performed by examine the movement of objects in rectangular motion detection area. You can define up to 3 motion detection areas.

Here are the descriptions of every setup item:

Item	Description
Enable Motion Detection	Check this box to enable motion detection.
Enable (Window 1 to Window 3)	Check this box to enable this motion detection window. You can select window 1 to 3 to enable up to 3 motion detection windows. When a motion detection window is enabled, a rectangular will appear on camera's view, with its title on the top. - To move / resize a motion detection window: - Move: Use the mouse to drag the title text. - Resize: Use the mouse the drag the four corners (upper-left/right, lower-left/right) to resize it. If you only want to adjust width or height, drag the four sidebars (top, bottom, left, and right).
Title (Window 1 to Window 3)	Input characters in title field to change motion detection area's title text so you can identify it. Please note that you have to click 'Apply' button and the text will change.
Percentage	Select the percentage of pixel change that will trigger motion detection alert. Select a lower percentage so you can detect tiny changes in motion detection area.
Sensitivity	Select the sensitivity level that will trigger motion detection alert. Select a higher sensitivity so you can detect tiny changes in motion detection area. It will show blue bar when window are detecting moving object through the window range.

When you finish with above settings, click 'Apply' button to save changes. Once the window detects motion, one blue flexible bar will appear at the bottom edge. One video file will be saving at this moment if the ftp server was enabled.

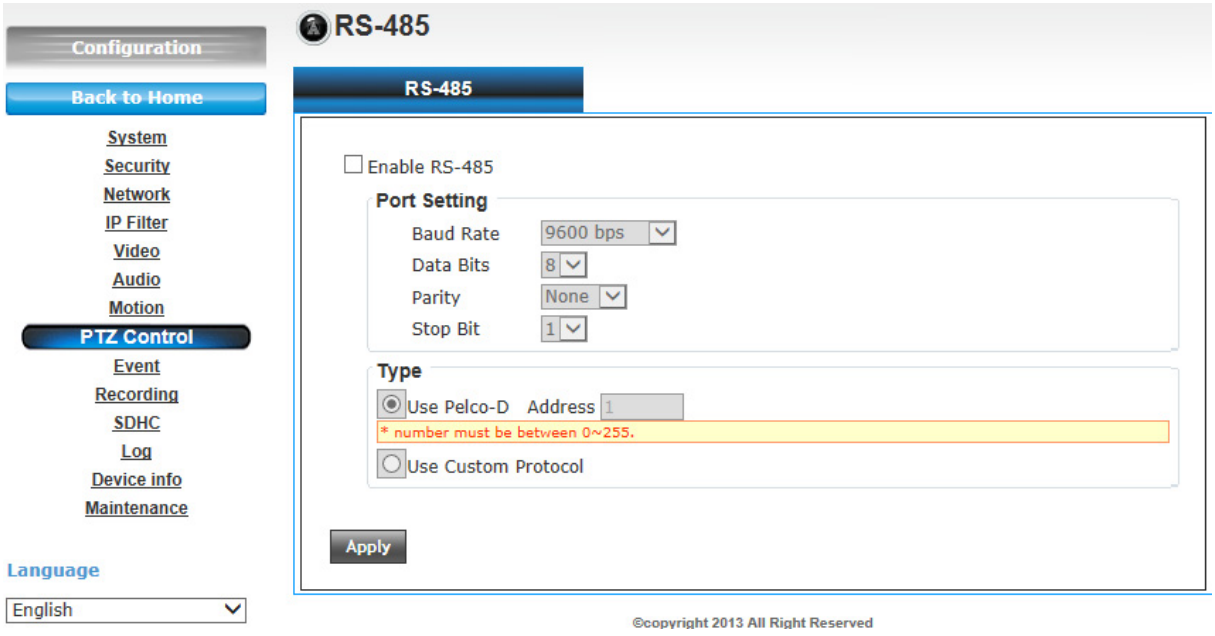


6.8 PTZ Control

If you mount the IP camera on pan-tilt camera cradles that support pan-tilt control via RS-485 connection, you can use this function to control pan-tilt camera cradle so you can control the orientation of IP camera from remote place.

Item	Description
Enable RS-485	Check this box to enable RS-485 functionality.
Use Pelco-D Address	Select this option and RS-485 interface will output pan-tile control signal in Pelco-D format. This format is widely accepted by most of pan-tilt camera cradles. You have also input pan-tilt camera cradle's address code in 'Address' field. This code must be identical to pan-tilt camera cradle's address code.
Use Custom Protocol	When the pan-tilt camera cradle does not support Pelco-D protocol, you can define a protocol's detail by this function.

When you finish with above settings, click 'Apply' button to save changes.

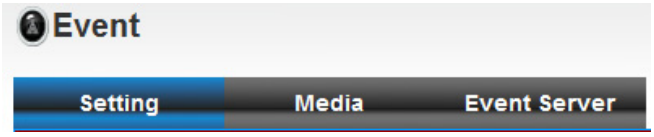


Please refer to pan-tilt camera cradle's user manual to define the protocol.

Port Setting	- Baud Rate: Select data baud rate of RS-485 interface that pan-tilt camera cradle will accept. When the length of RS-485 connection is very long (longer than 200M), it's not recommended to use high speed connection (greater than 2400bps). - Data Bits: Select data bits of RS-485 connection. - Parity: Select parity bit: odd, even, or space. - Stop Bit: Select stop bit: 1 or 2.
Customer Commands	- Home/Up/Down/Left/Right: Input the command string used to move pan-tilt camera cradle to home or up/down/left/right position. You can click 'Test' button to send command string for testing.
Extended Command 1 ~ 5	You can define extra pan-tilt camera cradle control strings here by giving it a name (Command Name) and command string (Hexadecimal Message). You can also click 'Test' button to send command string for testing.

6.9 Event

When there's an event, you can use this setup page to define what IP camera should do, like send an Email or trigger digital output to activate external alarm.
There are three setup pages:



1. Setting: Define a new event and manage events.
2. Media: Define what kind of media file should be saved on designate media.
3. Event Server: Define the details of remote server.

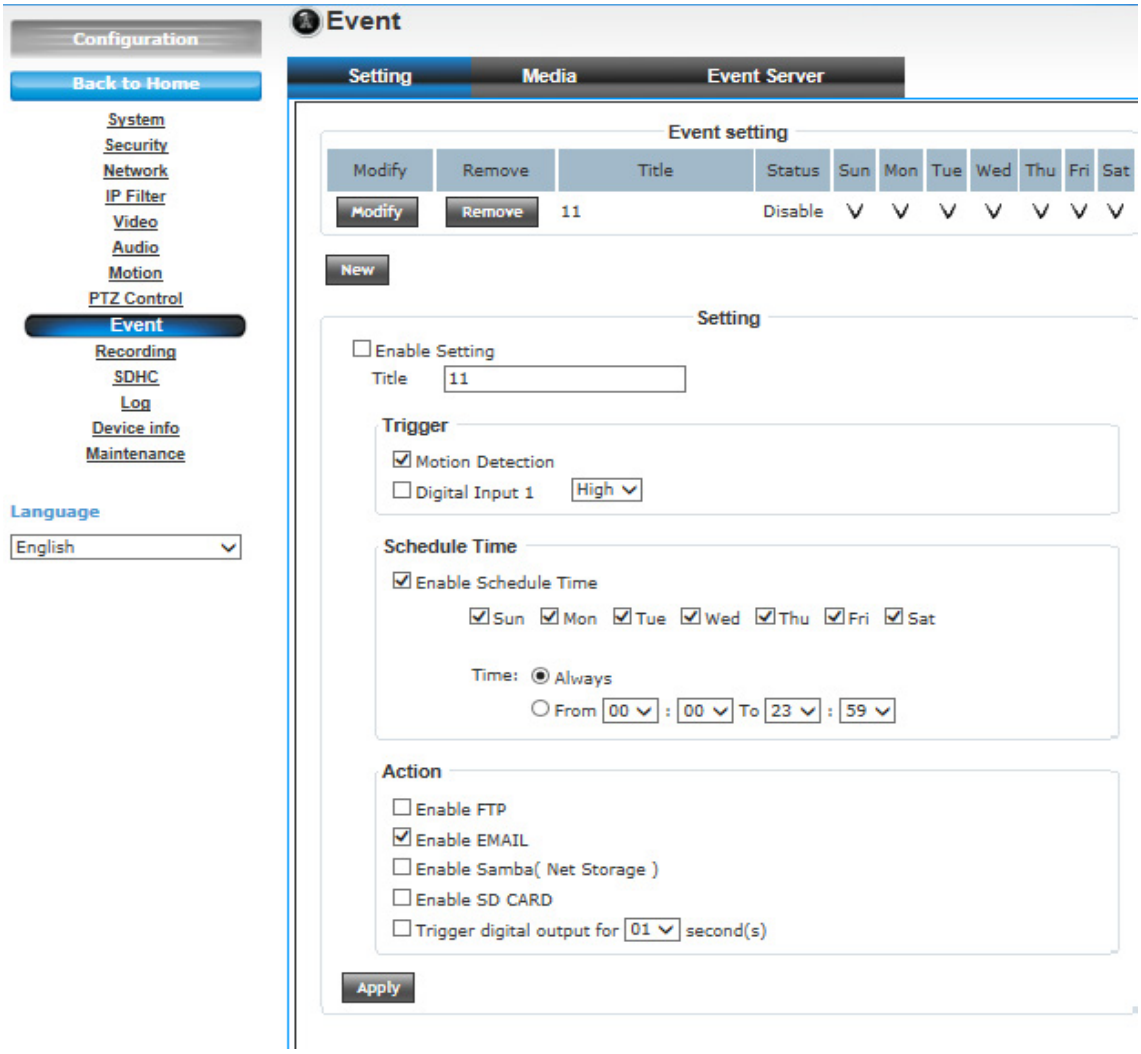
Please refer to following chapters for detailed instructions.

1. Setting

This page lists all existing events. You can click 'Modify' button to edit an existing event, or 'Remove' to delete an existing event.
To create a new even, just click "New" button to add an Event setting.
To add a new event, click 'New' button and the descriptions of every setup item is listed below:

Item	Description
Enable Setting	Check this box to enable this event. If you just want to disable this event temporarily, you can uncheck this box to keep this event and disabling while not deleting it.
Title	Input any description text for this event so you can identify it quickly. You can use alphabets, numbers, and symbols include: !$-.@^_~ (no spaces allowed).
Motion Detection	Check this box and this event will be activated when one of motion detection window detects motion.
Digital Input 1	Check this box and this event will be activated when "Digital Input 1" input signal is high or low (select from dropdown list).
Enable Schedule Time	Check this box and this event will be activated when designated weekday and time is reached. You also have to check weekday box, and select time from dropdown list. If you select 'Always' as time, this event will be activated during all the day.

Enable FTP	Check this box and IP camera will save file on FTP server (refer to 'FTP Server' setting in 'Event Server' tab) when this event is activated.
Enable EMAIL	Check this box and IP camera will send an Email to designated recipient address (refer to 'SMTP Server' setting in 'Event Server' tab) when this event is activated.
Enable Samba (Net Storage)	Check this box and IP camera will save file on samba server (refer to 'Samba Server' setting in 'Event Server' tab) when this event is activated.
Enable SD CARD	Check this box and IP camera will save file on SD card when this event is activated. A working SD card must be inserted into IP camera in advance.
Trigger digital output for xx second(s).	Check this box and IP camera will trigger digital out to 'high' state for xx seconds when this event is activated, where 'xx' seconds must be defined by the dropdown list.

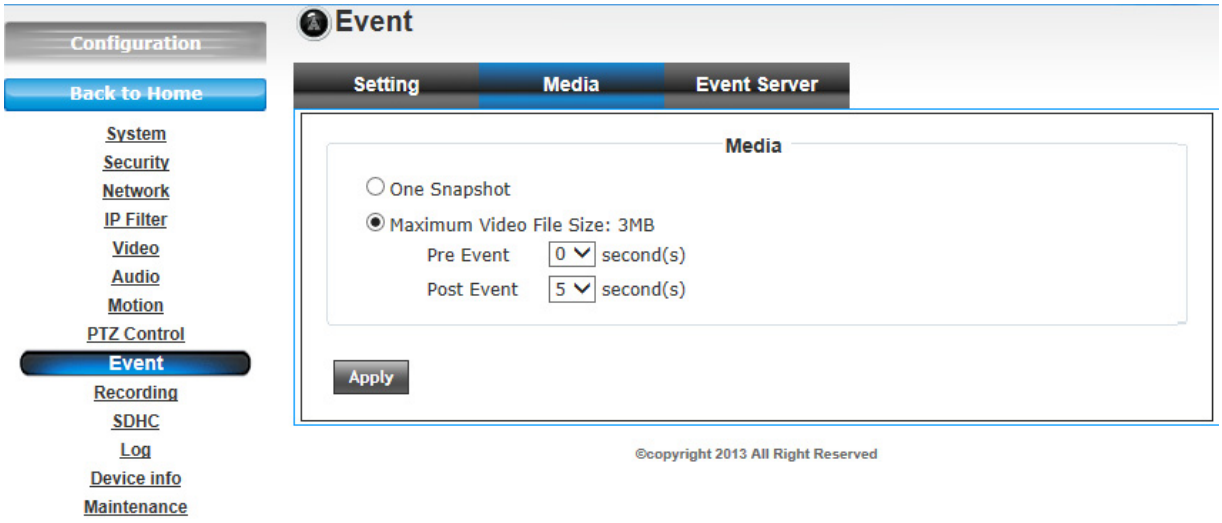


2. Media

Here are the descriptions of every setup item:

Item	Description
One Snapshot	Save a picture file when event is triggered.
H.264 Video	Save a H.264 video clip. You can also select the recording length before and / or after the time when event is triggered in 'Pre Event' and 'Post' Event'. For example, if you set 'Pre Event' to '10' and 'Post Event' to 5', and an event is triggered at 14:10:30, then the video file will be 15 seconds long, starting from 14:10:20 to 14:10:35. ***Tips: You may want to know what happened before event is triggered in many cases, especially when object is outside of motion detection window.*** ***Note: If the "Pre Event" set to "0" second, the "Post Event" cannot set to "0" second.***

When you finish with above settings, click 'Apply' button to save changes.

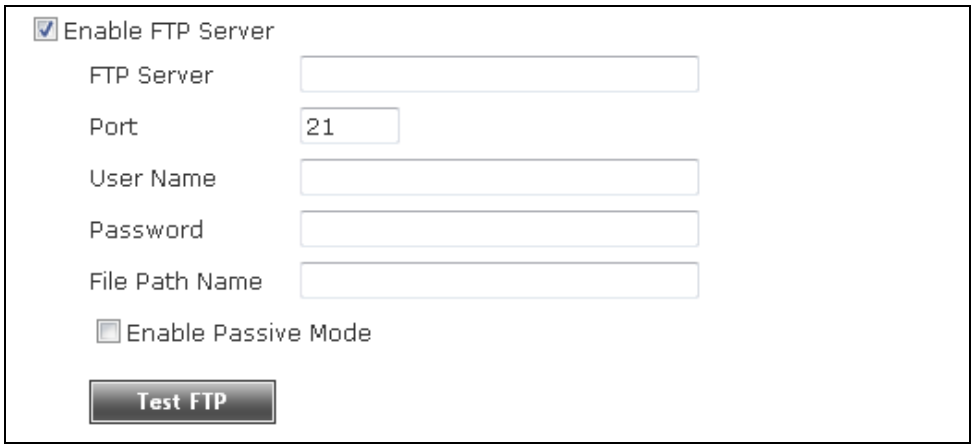


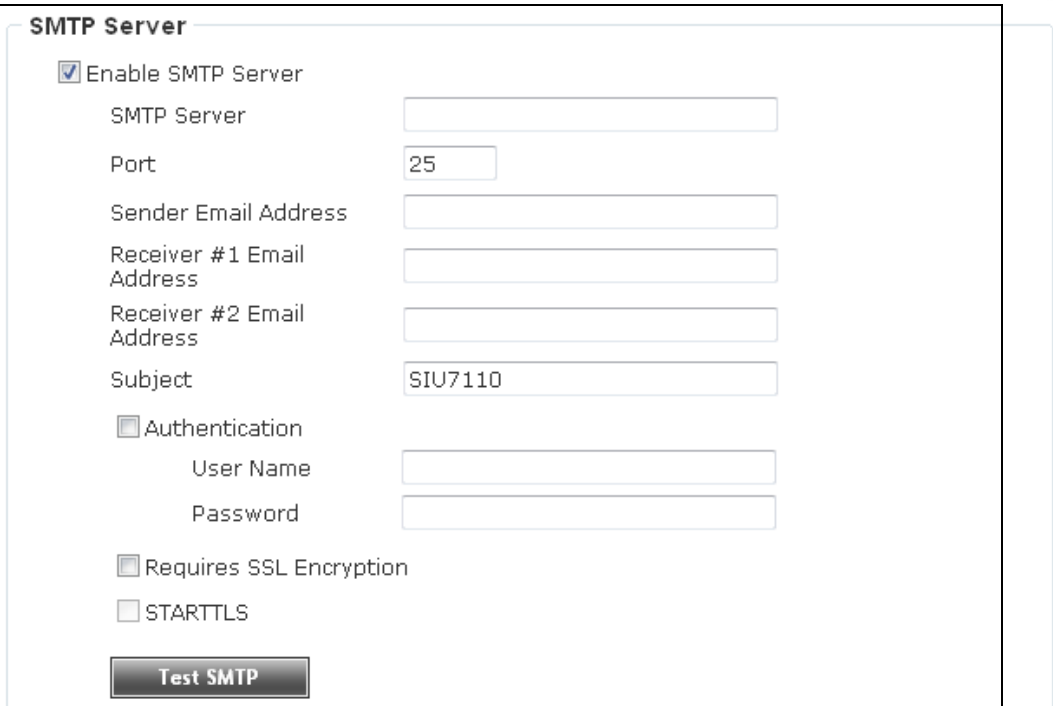
3. Event Server

You can define the details of remote media server: FTP (File), SMTP (Email), and Samba (File).

A Samba server can be any computer running windows operating system with network neighbor function enabled. Many stand-alone network file server also support samba server function.

Here are the descriptions of every setup item:

Item	Description
Enable FTP Server	Check this box to enable FTP server upload.  - FTP Server: Input FTP server's IP address or hostname. - Port: Input FTP server's port number. In most cases it should be default value '21'. - User Name: Input FTP server's username. - Password: Input FTP server's password. - File Path Name: Input the path where you want to save file on FTP server, like 'upload/record'. If you want to save file on this FTP user's home directory, you can leave this field blank. - Enable Passive Mode: Check this box to force IP camera to communicate with FTP server in passive mode (Some FTP Server may only work when you check this box, while others don't). - Test FTP: Click this button to test FTP server settings above immediately.
SMTP Server	Check this box to enable Email send.

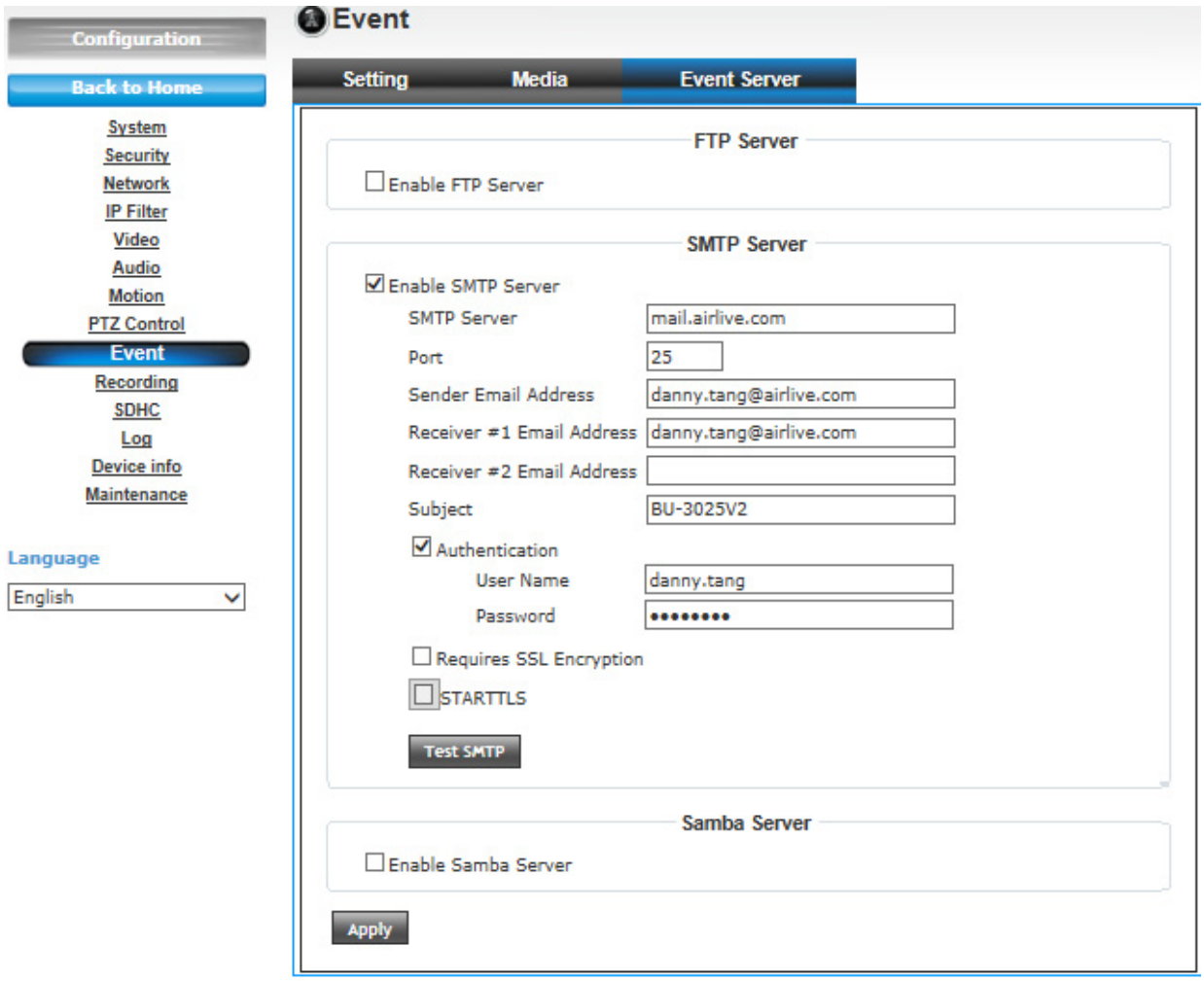


SMTP Server: Input SMTP server's IP address or hostname.

- Port: Input SMTP server's port number. In most cases it should be default value '25'.
- Sender Email Address: Input the sender's email address that will appear in the Email send by IP camera. This will help you to identify the Email sent by this IP camera, and may help when you have anti-spam software installed (you can set this Email address to 'White List' in your anti-spam software)
- Receiver #1 Email Address: Input primary recipient's Email address. This field is required.
- Receiver #2 Email Address: Input backup recipient's Email address. This field is optional.
- Subject: Input Email title that will appear in the Email send by IP camera. This will help you to identify the Email sent by this IP camera.
- Authentication: Check this box when authentication is required by the Email server you're using. You also need to input Email server's username and password in corresponding field.
- Requires SSL Encryption: If your Email server required SSL encryption, check this box. Please note that some Email server uses different port number than standard port 25 when SSL encryption is used.
- STARTTLS: If your Email server required STARTTLS encryption,

	check this box. Please note that some Email server uses different port number than standard port 25 when STARTTLS encryption is used. - Test SMTP: Click this button to test SMTP server settings above immediately.
Samba Server	Check this box to enable Samba server file upload. - Samba Server Address: Input Samba server's IP address or hostname. - Path: Input the path where you want to save file on Samba server, like 'upload/record'. If you want to save file on this user's home directory, you can leave this field blank. - User Name: Input Samba server's username. - Password: Input Samba server's password. - Test SMB: Click this button to test Samba server settings above immediately. ***Tips: Some samba server does not have username and password check, you can just input samba server address and path to access the file storage space.***

When you finish with above settings, click 'Apply' button to save changes.



6.10 Recording

When a Micro-SD card is inserted into IP camera, you can save video files on it.

Note:

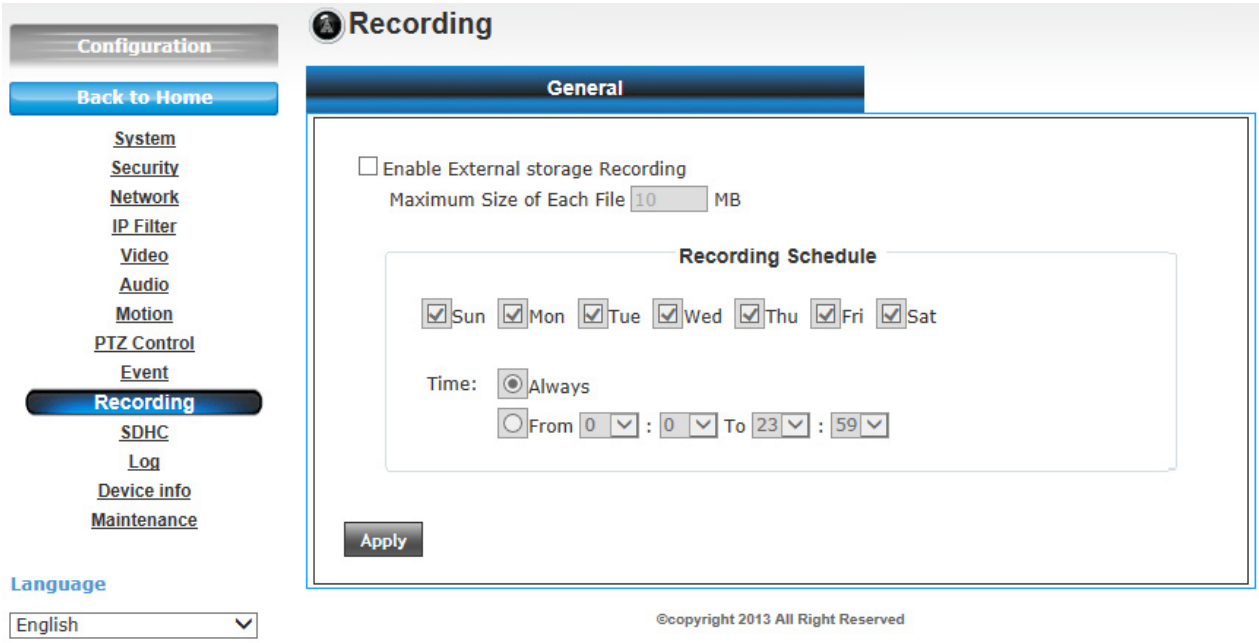
Be sure that the Micro-SD Card format should be FAT32. The NTFS format cannot be supported by this camera.

Here are the descriptions of every setup item:

Item	Description
Enable External storage Recording	Check this box to record video on Micro-SD card.
Maximum Size of Each File	Input the maximum size of every video file from 1MB to 50MB. IP camera will start a new video file when a recording video file reaches the size limit stated here.

Recording Schedule	Define the recording schedule. You can check Sun to Sat boxes to represent a weekday, and specify time period in 'From' and 'To' field. Select 'Always' to record 24 hours in selected weekday(s).

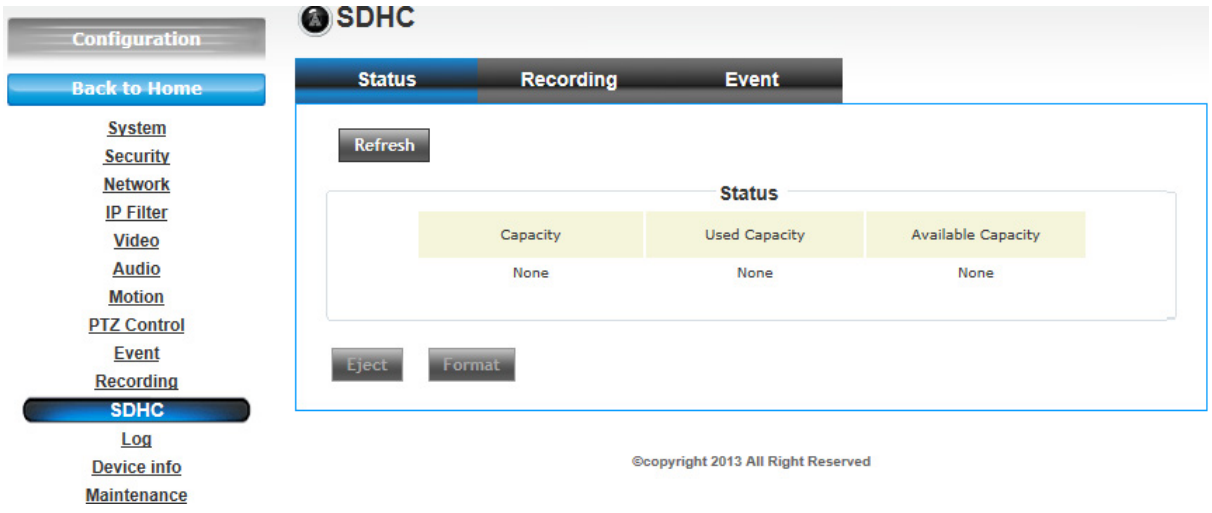
When you finish with above settings, click 'Apply' button to save changes.



6.11 SDHC

1. Status

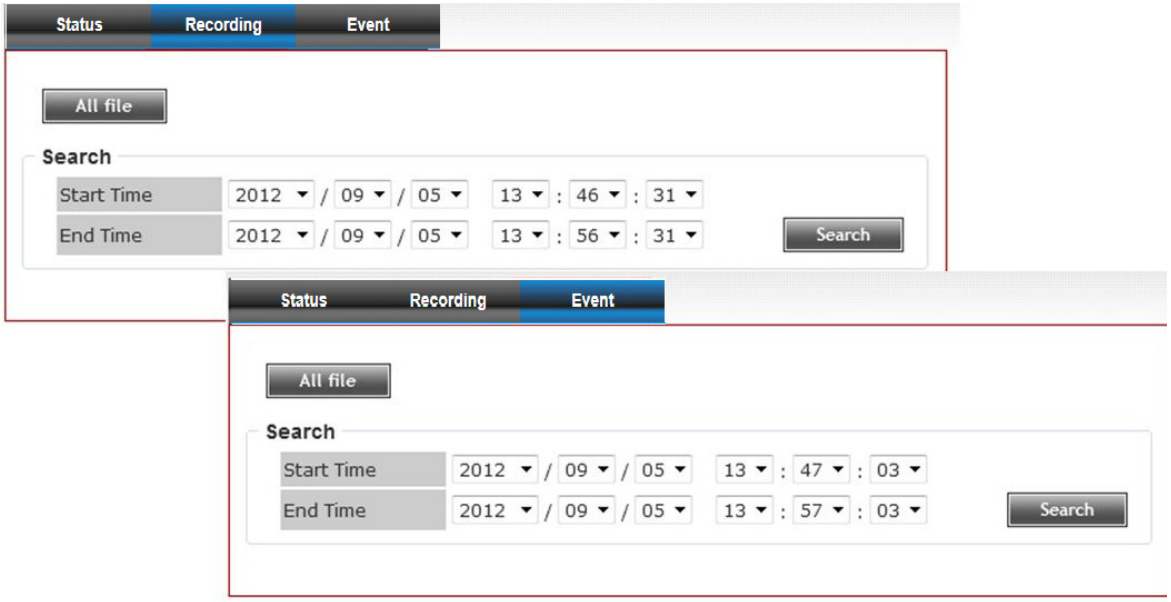
Once the Micro-SD card is inserted, the UI will show the capacity of the Micro-SD card like the image hereunder.



2. Recording

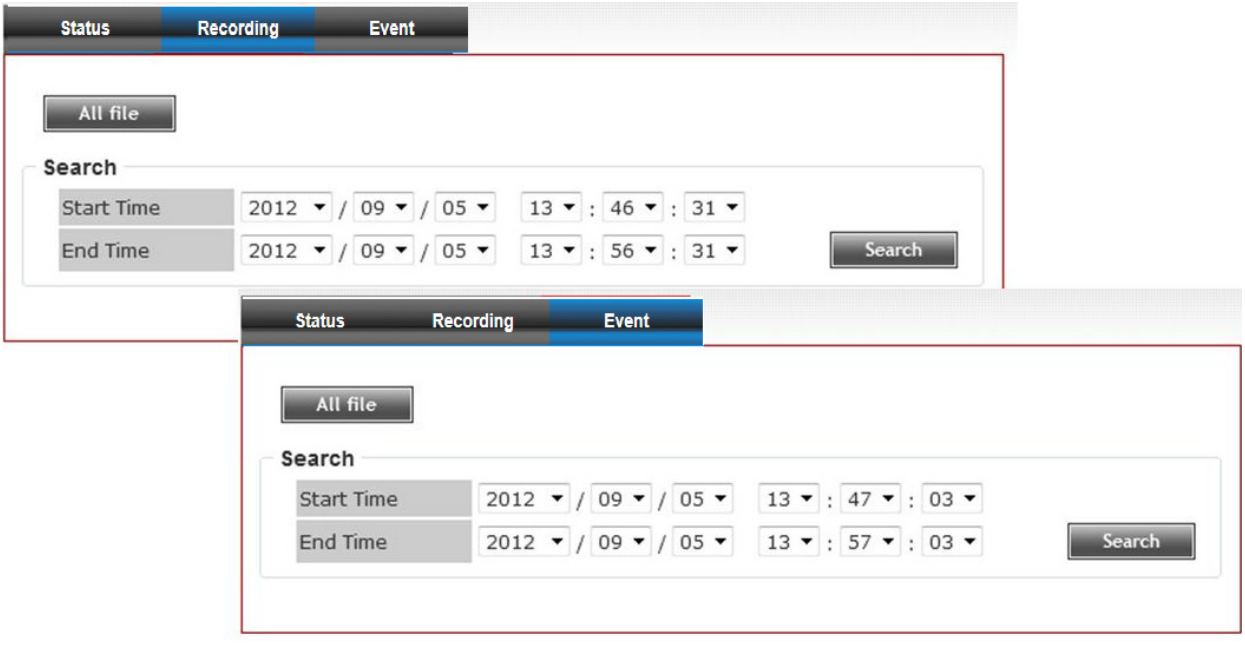
There are two UI pages to show the record on the Micro-SD card. They are mapping to the setting of “Recording to Micro-SD card” and “Event” accordingly.

Click “All file” to list all files. You also can define the range and click “Search” to sort the files needed. It shows likes the images in the next page.



3. Event

Set the time range then click “Search” then shows the records like below.

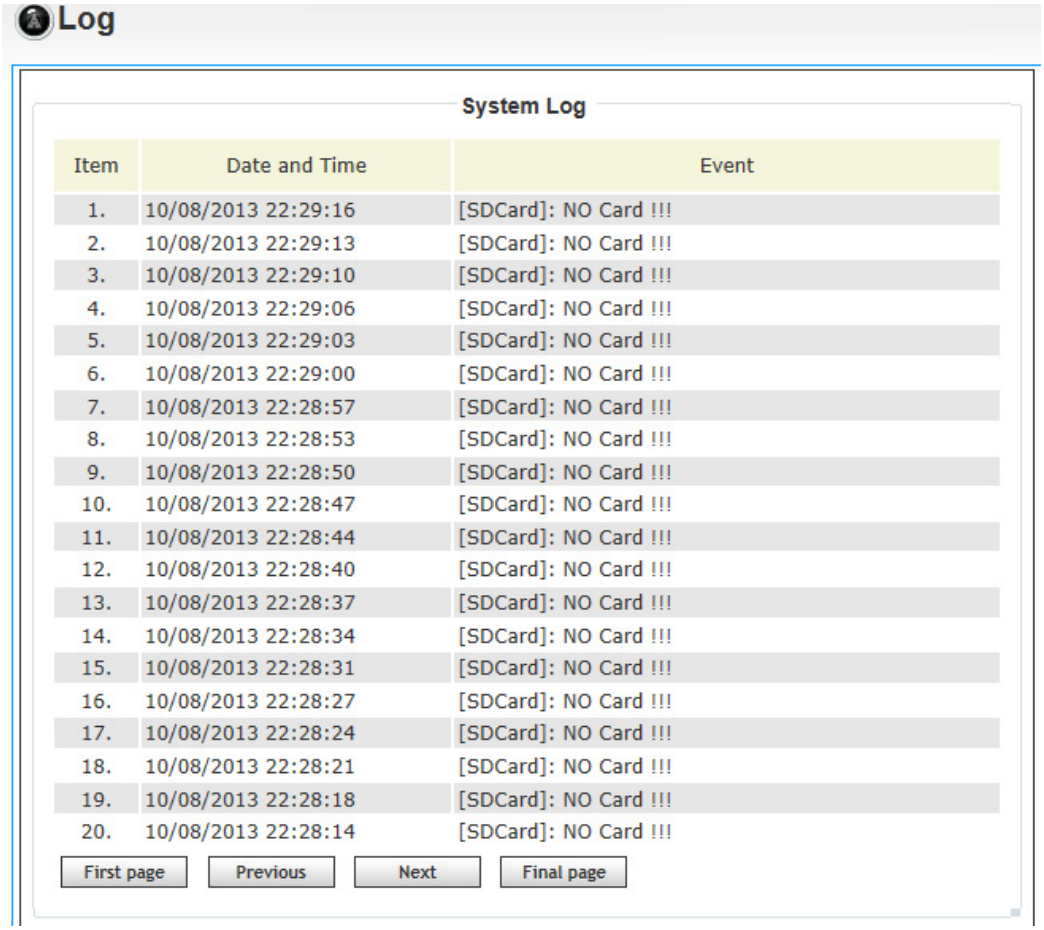


6.12 Log

You can check the usage log of IP camera here.

In this page, you can click:

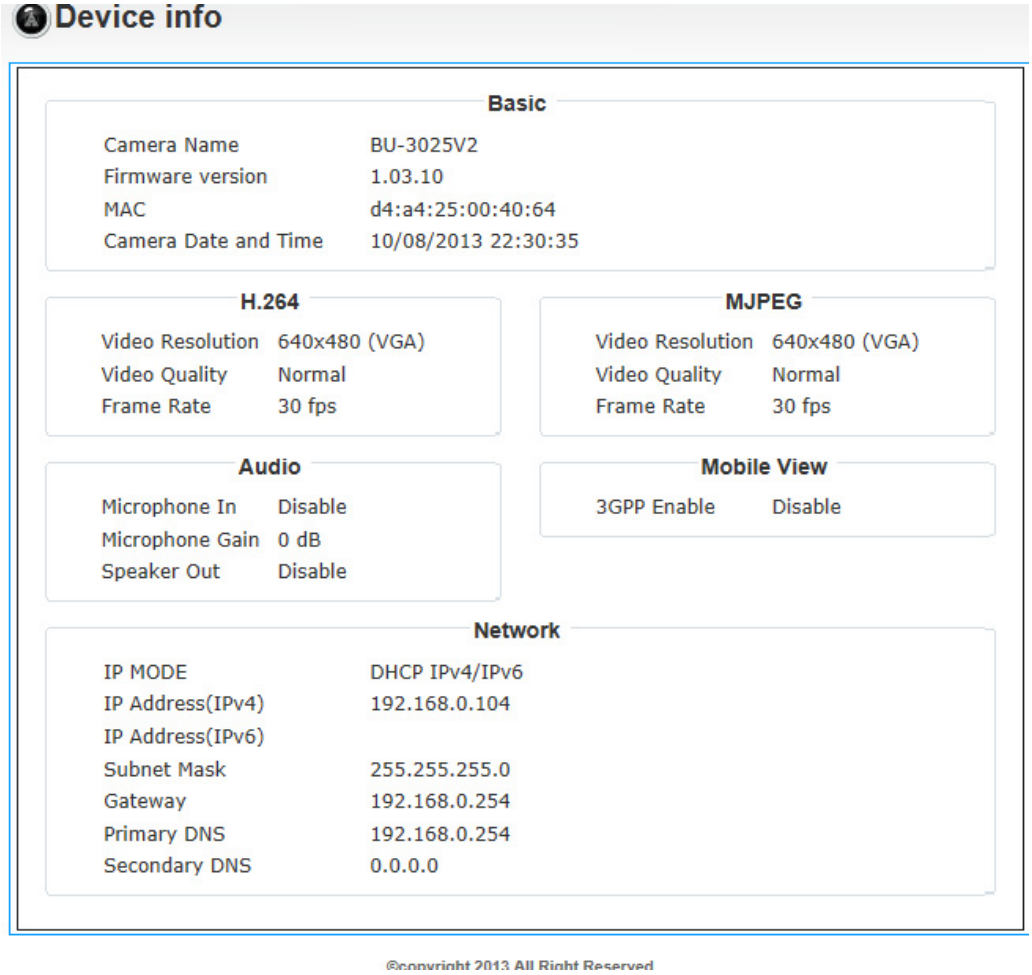
1. First page / Final page: Jump to first / final page of log.
2. Previous / Next: Jump to previous or next page of log.
3. Remove: Clear log. You'll be prompted for confirmation.



6.13 Device Info

You can check the information and network settings of this IP camera. This information is very useful when you need to repair or fix the problem of this IP camera.

An example of device info page looks like this:

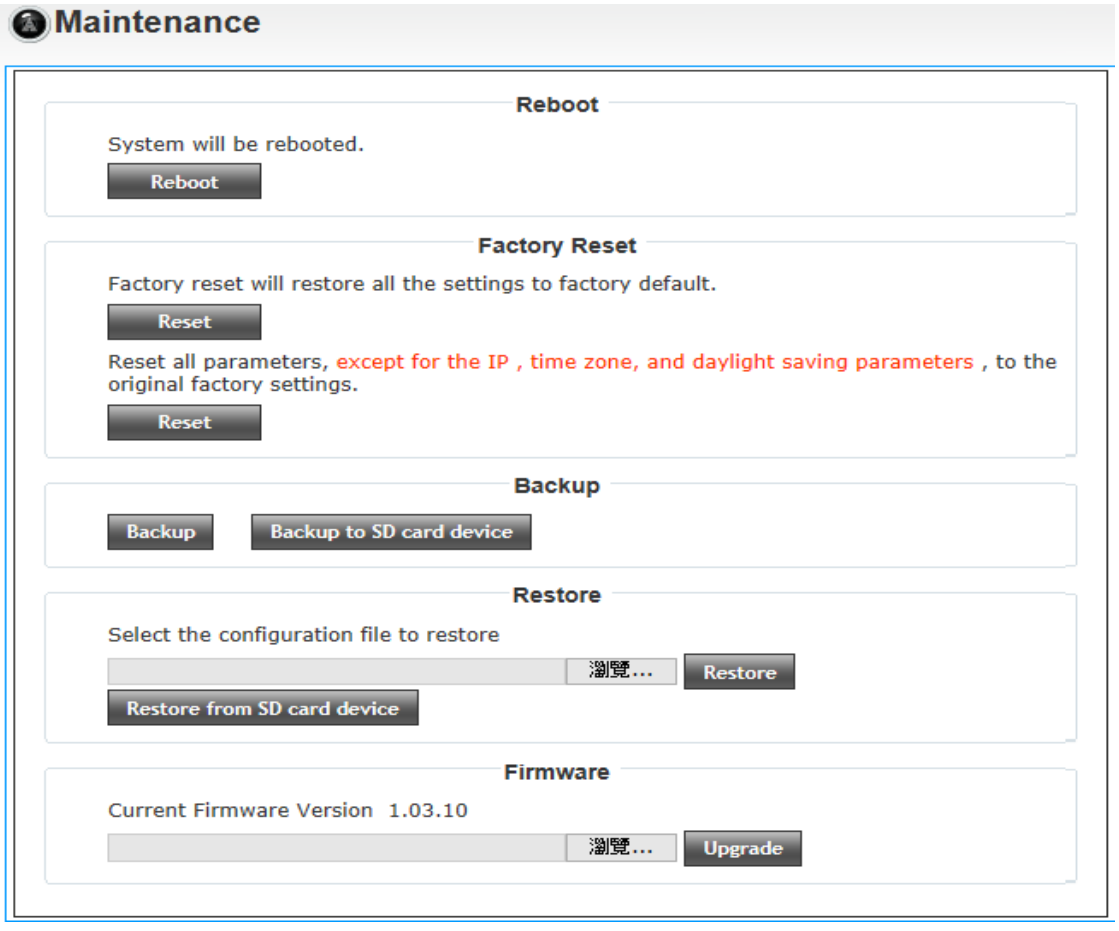


6.14 Maintenance

You can do some maintenance job about this IP camera here.
Here are the descriptions of every setup item:

Item	Description
Reboot	Click this button to reboot the IP camera. This function is useful when you find IP camera is not working properly.

Factory Reset	(1) Clear all settings of IP camera and reset to factory default setting. (2) Reset all parameters, except for the IP , time zone, and daylight saving parameters , to the original factory settings
Backup	Backup IP camera's setting and save it on your computer.
Backup to SD card device	Backup IP camera's setting and save it on SD card. A SD card must be inserted into SD card slot when you click this button, or you'll receive an error message.
Restore	Restore a previously-saved configuration file saved on your computer. Click 'Browse' button to select a file on your computer first, then click 'Restore' button.
Restore from SD card device	Restore IP camera's configuration which is previously-saved on SD card.
Upgrade	Upgrade IP camera's firmware. Click 'Browse' button to select a firmware image file on your computer first, then click 'Upgrade' button.



7 Appendix

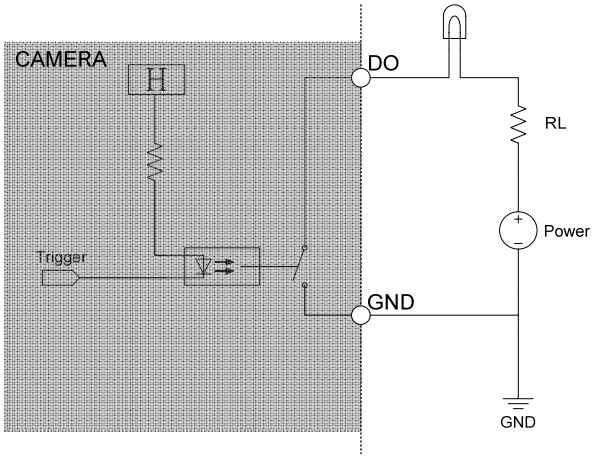
A. Digital I/O User Guide

DI/DO connector – Use in applications for e.g. motion detection, event triggering, Micro-SD recording and alarm notifications via FTP/EMAIL/SAMBA.

•Digital output — for connecting external devices such as relays, alarm bell or LEDs. Connected devices can be activated by the Configuration→Event interface or digital output buttons on the Home page.

Pin	Notes	Specifications
	Trigger is “Off”, DO connect to GND Trigger is “On”, DO is floating	Max load: 30mA,30VDC

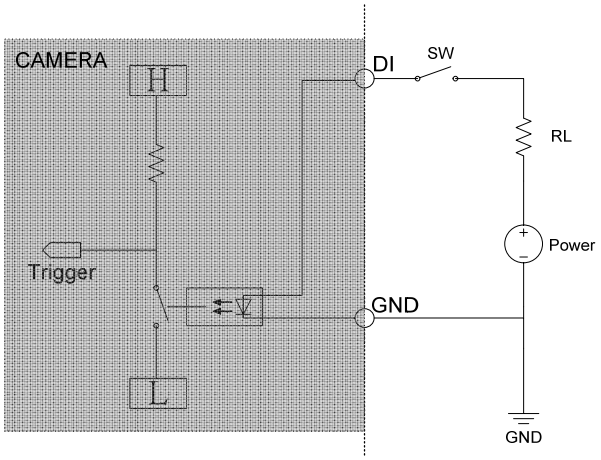
Please refer to the following illustration for DO connection method



•Digital input — An alarm input for connecting devices that can toggle between an open and closed circuit, for example: PIRs, door/window contacts, glass break detectors, etc. When a signal is received the state changes and the input becomes active.

Pin	Notes	Specifications
	DI is floating, trigger is “high” DI is high, trigger is “low”	Max current input: 30mA

Please refer to the following illustration for DI connection method



Suggested Component Value

Power(VDC)	RL(Ω)
3.3V	100Ω
5V	200Ω
12V	510Ω